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Annual Report of the Governor of Wyoming, 1885

ANNUAL REPORT

OF THE

GOVERNOR OF WYOMING.

TERRITORY OF WYOMING, EXECUTIVE OFFICE,
Cheyenne, November 25, 1885.

SIR: Pursuant to your request of October 10, 1885, calling for a report of the affairs and condition of Wyoming Territory, I have the honor of submitting the following as my first annual statement of its developing progress and present condition.

Having been a citizen of Wyoming for the past eighteen years, engaged in various business and civil pursuits, I have a generous pride in the rich heritage this Territory contains for earnest citizens in almost any industrial pursuit in which they may desire to engage.

That a comprehensive view of Wyoming's natural resources, material capabilities, development, and present condition may be shown the Department of the Interior and to the country, thereby affording information to those seeking new fields of industry, the investment of capital, the comforts of a healthful and delightful climate, as well as for the student of nature and the pleasure seeker, I have formulated this report somewhat elaborately, dealing, however, with facts within my knowledge, thus giving information that is naturally sought in relation to new territorial sections of our public domain. I venture, also, to offer such suggestions and recommendations as to me seem needful and pertinent. These recommendations will appear mainly in the last pages of this report.

It is true that those charged with public duties and responsibilities in a Territory can be governed by no other rule of action than that which the wisdom of law prescribes in molding the possibilities of such Territory for a future commonwealth, but it is nevertheless true that timely suggestions made from those within the Territory may lead to advantageous legislation and to favorable construction of existing statutes.

A table of contents precedes the other pages and will conduct the reader to any part of the report. Before proceeding in detail with my report, I beg to introduce the following epitome:

WYOMING.

A parallelogram.—Three hundred and sixty-five miles east to west and 275 miles north to south.

Altitude.—Averages about 6,000 feet above sea level.

Climate.—Dry, breezy, bracing, and healthful, averaging but slight falls of either rain or snow and aggregating as many sunny days and as few cloudy ones, as any locality in the Temperate Zone.

Population.—About 65,000 and increasing with healthy growth.

Inhabitants.—Of a high average; census of 1880 shows less illiteracy than any other State or Territory; habits, cosmopolitan; condition, vigorous; early settlers came from nearly every quarter of the globe; later, they came chiefly from the Eastern and Southern States.

General business.—Prosperous and promising.

Financial standing.—Public, corporate, and private, very much above the general average.

Capital invested.—Have much, but need more.

Schools.—Everywhere where scholars enough to attend, and excellent talent employed to teach.

Churches.—Nearly all young and yet struggling, but many new edifices, large and appreciative audiences, and present condition gives promise of a very satisfactory future.

Social, literary, and other societies are generally represented, receive much attention, and a good support; a large proportion of the people unite with and help maintain them.

Stock raising.—The largest industry; and over 2,000,000 cattle, 1,000,000 sheep and goats, and 100,000 horses and mules are represented in this Territory, worth, in round numbers, $75,000,000. No fatal contagious disease exists.

Grazing land.—Represents more than one-half of the acreage of the Territory.

Railroads.—The Union Pacific Railway runs some 488 miles through it, east and west, in southern part; the Oregon Short Line branch runs southeast and northwest in western portion of Territory, and the Colorado Central and Denver Pacific branches run from the main line south into Colorado in eastern portion, 9 and 10 miles, respectively.

Projected railroads.—Laid out nearly all over Wyoming (on paper), and the Wyoming Central Railway is just coming in over our eastern border, in course of construction directly through the Territory, east to west in about the center.

Mineral wealth.—Sufficient, it is thought by competent judges, to more than pay the "national debt," nearly all of the precious, superior, and baser metals being represented, but in slightly developed condition only. The rare metals, tin and cinnabar, are found here among others.

Health resort.—Wyoming will, at no distant day, become noted as a resort for the sick in search of health.

Public lands.—Much yet unsurveyed, and very much of that surveyed still unoccupied. There is plenty of room for new comers.

Agriculture.—Irrigation must be depended upon to raise farm products. The average rainfall is not sufficient to mature crops, except grass for grazing purposes. About one-eighth of the area of the Territory is cultivable land.

Water.—There are many rivers, with numerous branches, distributed throughout the entire Territory, watering large tracts, also furnishing food fishes.

Timber covers about one-fifth the area of the Territory, but the growth on a portion of it is slight and scattering.

Petroleum.—Found in many parts of the Territory and in vast basins of country, some as large as 30 by 150 miles. Wyoming will doubtless become more noted for her oils than for any other one product.

Building stone.—Granite, sandstone, marble, limestone, slate, &c., abound in great quantities.

Laws.—Good, and are very generally observed, and the people are conscientious and law-abiding as a whole, the late massacre of Chinese miners at Rock Springs to the contrary notwithstanding. The effects of that horror are being appreciated and the determination prevails to provide against further similar occurrences and to insure to the Chinese humane treatment, as well as to ultimately punish those who have broken the laws.

Quarantine.—Wyoming live-stock growers are keenly alive to the necessity of adopting rigid rules to insure protection of her live stock, and sanitary regulations respecting all sections and quarantine against infected regions will be maintained.

Mail service.—In some localities is good, but more mail routes and better facilities are needed to develop and keep pace with the growth of the Territory.

Wild game abounds, and its slaughter is regulated by Territorial laws to insure its preservation and its use to inhabitants of Wyoming.

Indians of Wyoming are peaceful.

Yellowstone National Park.—Largely within limits of the Territory, and Wyoming's citizens are proud of "The Wonderland."

Wyoming needs simply to be better known; all desirable things will quickly follow, for its inducements will command them.

Manufactures.—In their infancy.

New Orleans Exposition.—Wyoming is represented there.

Newspapers.—There are 21 printed within the Territory.

TERRITORIAL NAME.

The name of "Wyoming" was given this Territory by Congress in the organic act creating it July 25, 1868, and was derived from the historic Wyoming Valley, a beautiful plain, 21 miles long by 3 miles wide, on the Susquehanna River, in Luzerne County, Pennsylvania, and skirted by bold, rugged mountains, 1,000 feet high. Its origin is supposed to be a corruption of the Indian word "Maughwauwame," meaning "large plains." It was upon these plains of this valley where occurred the British and Indian massacre of July 3, 1778, in which nearly 300 settlers were barbarously slain by some 700 Indians of the Seneca tribe of the Six Nations and 400 British tories. Fourteen of the latter were tomahawked the following evening by the hands of Queen Esther, a half-breed woman, in revenge for the death of her son, which occurred near a rock that still bears her name.

A proprietary conflict between a Connecticut colony, who claimed this historic valley by right of purchase from the Delaware Indians in 1753, and a colony of Pennsylvanians, who also claimed possession by right of purchase from the Six Nations in 1768, was waged, to a greater or less degree from the first controversy, for some thirty-five years. A monument was erected on the site of the massacre in 1843, in commemoration of the bloody event. This is also perpetuated in history and embalmed in legendary verse by a British bard, Thomas Campbell, in his "Gertrude of Wyoming," which was founded in this bloody valley, and from which the following quotation applies to our Wyoming of to-day:

> And scarce had Wyoming of war or crime
> Heard, but in transatlantic story rung;
> For here the exile met from every clime,
> And spoke in friendship every distant tongue.

Though the poem is mainly woven from romantic imagery in its scope and characters, yet its popularity has shrouded the name of Wyoming with recollections of horror; and, as its name means "large plains," it is not impossible that it was suggested for our fair Territory because of its broad plains; and in its earlier days, because its rich and varied resources brought a heterogeneous population within its borders. "For here the exile met from every clime," with more or less of the methods of frontier life, which are not, I regret to say, entirely abandoned to-day, as is witnessed by the recent massacre of Chinese at Rock Springs.

"For here the exile met from every clime," many of whom were exiles from their native climes because of their communistic proclivities; and but few of those engaged in this butchery of the poor Chinese were naturalized citizens, and not a single one of them was a native born.

This deplorable affair was a conflict of races; the massacre of Wyoming Valley a conflict for domain.

GEOGRAPHICAL POSITION.

The Territory of Wyoming is bounded by Montana on the north, by Dakota and Nebraska on the east, by Colorado and Utah on the south, and by Montana, Idaho, and Utah on the west, and is embraced between the forty-first and forty-fifth parallels of latitude and between the twenty-seventh and the thirty-fourth meridians of longitude west from Washington; contains an area of about 100,000 square miles, being 365 miles in length from east to west and 275 miles in width from north to south, or nearly that, and comprises a total of some 64,000,000

acres, as shown by the records of the surveyor-general's office of the Territory. Thus the area of Wyoming, in square miles, is nearly as large as all of the six New England States and the State of Indiana combined, and nearly 3,000 square miles larger than the two great States of Iowa and Ohio. Wyoming's geographical position on the continent, in relation to all those natural advantages and industrial resources, climate, rock, timber, minerals, grazing, agriculture, and transportation by the great central line of railroad connecting the two oceans, with other east and west trunk lines in progress and in prospect, is equal, if not superior, to any other Territory or commonwealth within our national borders. From the Atlantic Ocean to the east line of Wyoming, along the forty-first parallel of latitude, which bounds the southern border of the Territory, is a distance of about 2,000 miles, and from the west line of Wyoming along the same parallel of latitude to the Pacific Ocean is a distance of some 800 miles. Thus it will be observed that the geographical position of Wyoming is unexceptional. It has a rich agricultural State, Nebraska, joining it on the east, and the mining, farming, and grazing State of Colorado on the south, while the northern line of the Territory is within about 50 miles of the Northern Pacific Railroad, at its nearest point, in Montana, on the north.

Salt Lake City, the great midway town between Omaha and San Francisco, is only 100 miles west of Wyoming's western limit.

PHYSICAL AND SCENIC FEATURES.

The physical and scenic features of Wyoming are remarkable for their variety and grandeur. The Territory is, in the main, broken in its general surface features, here and there rising from undulating plains to lofty mountains. Illustrating this, the great plains of Nebraska extend into Eastern Wyoming from 40 to 70 miles, when they gradually rise to an elevation of from 6,000 to 9,000 feet above sea level, thus forming the Laramie or Black Hills range, a part of the eastern spur of the Rocky Mountain system which extends from the British possessions through western Montana into Wyoming from its northwest corner to the southeast into Colorado and southward across the continent.

To give a methodical and comprehensive survey of the surface features of Wyoming at a glance, I will traverse from east to west the southern half, or that portion of it lying south of the North Platte and Sweetwater Rivers and the Wind River Mountains to the Snake River, where it crosses the Territorial line into Idaho, and from thence returning in a survey of the northern half, or that portion of the Territory lying north of the lower Snake Valley, the Wind River Mountains, the Sweetwater and North Platte Rivers to the eastern limit.

MOUNTAIN RANGES.

The Laramie range, the most eastern of the Rocky Mountain system, extends from the south line of the Territory, some 70 miles from the eastern limit, northward to the North Platte River; thence, bearing westward with the river to the angle thereof in its course from the south, is from 15 to 40 miles in width, about 175 miles in length, north and south, has a mean elevation of some 8,242 feet, while Laramie Peak reaches an altitude of 11,000 feet.

West of this range are the Laramie Plains, a tract of rich grazing and agricultural lands some 70 miles wide by 130 miles long northwest and

southeast, extending to the North Platte River on the west, broken on the south by the snow range of Medicine Bow Mountains, which jut into the Territory some 50 miles from the Colorado range in a northwest direction along the east side of the Platte River, having a width from 20 to 30 miles and an elevation of some 10,000 feet. Skirting the west side of the North Platte Valley, distant about 15 miles from that river, rise the Sierra Madra Mountains, extending from the Colorado line parallel with the river some 35 miles northwestward, with a breadth of perhaps 15 miles.

North of this latter range and bordering on the south side of Sweetwater River is the Sweetwater range of mountains, extending from the Platte River near where the Sweetwater forms a junction with it westward some 120 miles, when they join the Wind River range, extending northwestward. The Sweetwater range is from 12 to 30 miles wide.

The country extending from the Platte River to the Green River, a distance of about 150 miles west, and between the Sweetwater Mountains and the southern limit of the Territory, a distance of about 90 miles north and south, and along the Green River some 60 miles still further northwestward to the source of the latter river and to within 70 miles of the Yellowstone Park, is a vast plain, the eastern portion of which is sometimes designated as the "Red Desert," and the northwest portion is called the "Colorado Desert" or Green River Basin. This vast extent of Southern Wyoming thus outlined presents an undulating surface, broken here and there into hills, sand dunes, and buttes. West of the Green River Valley rise the Bear River, Salt River, and Wyoming Mountains, extending along the western border of Wyoming northward for about 150 miles to the Snake River Valley, about midway of the Territory north and south.

Now, returning eastward in the survey of the northern half of Wyoming, or that portion thereof lying north of the lower valley of Snake River, of the north end of Green River Valley, of the Sweetwater and North Platte Rivers, we first find the Teton range of mountains, extending along the western limit of the Territory from the lower valley of Snake River where it crosses into Idaho northward into the Yellowstone National Park, and there joined by the Yellowstone range, extending along the western limit of the valley of the Yellowstone River to the Montana line. Crossing the Yellowstone Valley eastward the Shoshone range of mountains stands before us, extending from the north line of the Territory southeastward between the Yellowstone and Big Horn valleys for about 85 miles. This range is from 30 to 60 miles in width, with a general elevation of from 10,000 to 11,000 feet. Southeast of the Togwotee Pass—which is formed by the Buffalo Fork of the Snake River in its course from the east—rises the Wind River range, which is from 25 to 40 miles wide, with an altitude of from 10,000 to 12,000 feet above the sea, snow-capped the year through and extending southward about 100 miles to the western limit of the Rattlesnake range on the north side of the Sweetwater River. Between this mountain range and the Big Horn River is a wide area of plains extending north and south between the north line of the Territory and the Owl Creek Mountains, a distance of about 90 miles in length and a mean distance of about 50 miles in width. South of the Owl Creek Mountains (a spur of the Shoshone range, from 15 to 30 miles in width and about 50 miles in length, extending to the Big Horn River) is another vast plain, the valley of Wind River and its tributaries, extending southward from Owl Creek Mountains to the Rattlesnake range, a distance of some 60 miles, and extending eastward from the eastern base of Wind River Mountains to

the southern extension of the Big Horn Mountains, a distance of about 100 miles. The entire area of plains thus outlined is an excellent grazing region, and much of it is available for agricultural purposes, especially the Shoshone Indian Reservation, which lies at the eastern base of the Wind River Mountains, averaging about 55 miles square and containing an area of over 1,500,000 acres. This reservation is well watered by the Wind River and its tributaries and would be a valuable acquisition to the agricultural domain of the Territory.

The Rattlesnake Mountains form a range extending from the termination of the Wind River Mountains (about 150 miles east of the western limit of the Territory), along the north side of Sweetwater River to near its junction with the North Platte, a distance of about 75 miles. The range forms the divide or water-shed of the Rocky Mountain chain in in its course through Wyoming, which is more or less broken by minor water-courses cutting it here and there. The width of the Rattlesnake range is from 15 to 25 miles.

East of the Big Horn River rises the Big Horn Mountain range, which, extends from Montana southward, forming the eastern limit of the valley of that river. The length of this range from the northern line of the Territory southward to the Rattlesnake Mountains is about 150 miles, its width where it enters Wyoming is about 50 miles and grows narrower in its course southward until it is only about 3 to 10 miles wide at its southern limit near the Rattlesnake range. The general elevation of the Big Horn range is from 8,000 to 12,000 feet.

Between the Big Horn River and the western base of the Big Horn Mountains is a tract of country or valley plains extending from Shell Creek—a small tributary of the Big Horn rising some 45 miles eastward in the range and joining the main river about 25 miles east of the northern Territorial line—to the Rattlesnake Mountains, a distance of 125 miles southward, the northern portion of which is more or less broken.

From the Big Horn Mountains to the east line of the Territory, and from its northern limit to the Platte River, is a vast tract of country about 150 miles east and west and about 170 miles north and south, within which is the county of Crook, nearly the east half of Johnson, the northern one-third of Carbon and Albany Counties, and the northern half of Laramie County, the largest and best agricultural and grazing portion of the Territory. The eastern part of Crook County is somewhat broken by projections of the "Black Hills of Dakota" therein from the Dakota side for some 10 to 15 miles and along the Territorial limit some 20 miles, with a spur, the Bear Lodge, on the northwest extending to the Belle Fourche River. However, these elevations can hardly be classed as mountains—no more than a broken chain of hills, similar to those which extend from the northern limit of the Laramie range up the east side of the Powder River for some 80 miles, and which are not more than from one to 12 miles in width. The valleys of the Powder, Belle Fourche, and Cheyenne Rivers and their numerous tributaries, not only afford water-courses for this rich country, but also cause, to quite an extent, its broken features.

Viewing the general distribution of the mountain ranges of Wyoming as a whole, it will be found that they are divided into four general chains, the first being the western portion of the Black Hills which extends across the Dakota line into Wyoming some 15 to 20 miles in the northeast part thereof, being the continuation of the Powder River chain lying on the north in Montana, with the Bear Lodge mountains and other lesser elevations lying northwestward some 15 miles. This

chain is comparatively insignificant. The second chain is made up of the Big Horn range, which rises on the east side of the Big Horn River in Montana, and extends southward into the east and west center of Wyoming to near the northern limits of the Laramie range which joins the general Rocky Mountain chain near the southern line of the Territory.

The third chain comprehends the main ranges of the general Rocky Mountain chain, extending from the northwest corner to southeast part of the Territory, and is formed by the Yellowstone, Shoshone, Wind River, Rattlesnake, Sweetwater, and Medicine Bow ranges, the latter of which crosses into Colorado. The fourth and last chain lies on the western limit of the Territory, and is composed of the Washburn range in the northwest corner of the Yellowstone National Park southward to the Madison River; of the Teton range, from the latter river to the lower Wyoming limit of the Snake River; of the Salt River, Wyoming, and Bear River ranges to the southern line of the Territory, where they join the Uinta Mountains in Utah. This latter chain is collateral to the general Rocky Mountain chain. Between these several mountain chains intervenes the vast extent of undulating plains from which the ranges rise irregularly and often abruptly, and from which the main water-courses find their source.

WATER-COURSES AND LAKES.

Having thus given a general outline of Wyoming's mountain ranges and their features, the water-courses thereof have much to do in the formation of its surface character, and are important, not only in relation to the drainage system of the Territory, but for economic purposes in its industrial resources as well.

An examination of the field-notes of the surveyor-general's office of this Territory will, beyond question, show Wyoming to contain the most extensive and complete natural system of water-courses and drainage of any portion of the domain of the continent, having a general elevation above the sea of about 6,000 feet, and its limits being crossed by the great chain of the Rocky Mountains from the northward to the southward, with their lateral ranges and mountain spurs extending at intervals in various directions, constituting a part of the great continental divide, thus creating a water line making the altitude of the Atlantic and Pacific slopes the dividing source of the various water-courses, sending those rising on the eastward to the Atlantic Ocean and those rising on the westward to the Pacific.

In tracing the water-courses and drainage system of Wyoming, I will note them as they appear in a general survey of the Territory from east to west.

The largest and most important water-course in the Territory is the North Platte River, which has its source in the North Park of Colorado and enters the southern limit of Wyoming 120 miles west of the east line, and, circling towards the west around the base of Medicine Bow Mountains, courses northward 125 miles, when it bears eastward around the northern limit of the Laramie range to Fort Fetterman, thence bears southeastward, crossing into Nebraska about 70 miles north of the south line of this Territory. Its linear length in Wyoming is some 300 miles, and its average width is about 55 yards, or about 75 yards at Fort Laramie and about 35 yards at Fort Steele, where it is crossed by the Union Pacific Railroad. Among the larger tributaries of the Platte are the Big and Little Laramie and Sweetwater Rivers, the Big Laramie also

rising in the North Park of Colorado, and, crossing into Wyoming 8 or 10 miles east of the North Platte, it courses in a northeast direction past Laramie City, thence northward along the western base of the Laramie mountains some 65 miles, when it bears northeastward through the Laramie range to Fort Laramie, where it joins the North Platte. The Little Laramie and North Laramie are both tributaries of the Big Laramie, the latter rising near the western base of Laramie Peak, some 75 miles west of the Nebraska line, and, crossing through the Laramie range, joins the Big Laramie near its eastern base. The length of the main Laramie in Wyoming is about 135 miles. Besides this tributary of the North Platte on the south and flowing from the eastern slope of the Laramie range are the Chugwater, Horse Creek, Lodge Pole Creek, and Crow Creek, the Medicine Bow River flowing from the west slope of the same range. The principal tributary of the North Platte from the west is the Sweetwater River, which rises on the slope of the southern end of the Wind River Mountain range, and courses eastward between the Sweetwater range of hills on the south and the Rattlesnake range of mountains on the north, to its junction with the North Platte, a distance of perhaps 115 miles.

The northeast portion of the Territory lying north of the Platte and east of the Big Horn Mountains is watered by the Cheyenne River, which rises about 100 miles westward of the point where it crosses into Dakota at the northwestern corner of Laramie County. It has numerous tributaries feeding it on either side from its source to its Eastern Wyoming limit. North of the Cheyenne we meet the Belle Fourche River, which rises in the Powder River Hills, near the southwestern corner of Crook County, and courses northeastward a distance of about 120 miles, when it crosses into Dakota north of the Black Hills. This river is also augmented by many tributaries on either side. This watercourse, with the east branch of the Powder River, which has its source in the central portion of Crook County and passes out on the north, and some 40 miles of the headwaters of the Little Missouri River, with their numerous affluents, comprise the water-courses of Crook County in the northeastern corner of the Territory.

West of the Little Powder River we next come to the main Powder River, which has its source on the northern slope of the eastern limit of the Rattlesnake Mountain range, and courses northward along near the line dividing Crook and Johnson Counties into Montana, a distance of some 170 miles in Wyoming. The Powder has a number of extensive tributaries, including Clear Creek, Crazy Woman's Fork, and North Powder River, all rising on the eastern slope of the Big Horn Mountains, and Sand and Salt Creeks as southeastern affluents. Tongue River, a beautiful, pure, fresh-water stream, filled with trout, rises in the eastern slope of the Big Horn Mountains within 30 miles of the north boundary of Wyoming, and flows northeasterly into Montana and on to the Yellowstone River. Its length in Wyoming is about 50 miles. Its tributaries in this Territory—Wolf Creek, Big and Little Goose Creeks, and Prairie Dog Creek—are all beautiful streams, and are largely utilized for irrigation and farming, that part of Wyoming being a very productive agricultural country wherever irrigated. These rivers and their tributaries water an area extending from the Big Horn Mountains, through Johnson and Crook Counties, to the eastern limit of the Territory, thus making it one of the grandest sections of the Territory for grazing and agricultural purposes.

West of the Big Horn Mountains and forming the western line of Johnson County and the eastern line of Fremont County, flows the Big

Horn River, which is formed about 10 miles from the southeast corner of the Shoshone Indian Reservation and near the base of the southeastern limit of the Wind River Mountain range, by the junction of the Wind, Little Wind, and Popo-agie Rivers and Beaver Creek and several other affluents, and thence courses almost due north a distance of 140 miles, when it passes into Montana and soon joins the Yellowstone. The Big Horn is a fine river of excellent water, and, with its tributaries, Badwater, No Wood, and Shell Creeks on the east, finding their source on the western slope of the Big Horn Mountains, and the Muddy, which flows from and along the southern base of Owl Creek Mountains, Owl, which flows from and along the northern base of the same mountains, and Gooseberry Creeks, and the Gray Bull and Stinking Water Rivers, rising in and flowing from the Shoshone range of mountains on the west, affords ample water supply and complete drainage to the Big Horn Valley, an excellent area of agricultural and grazing land, being an open undulating region. The altitude of the Big Horn River at its source is 7,500 feet; at the north line of Wyoming, 3,500 feet above sea level.

Wind River, the next water-course we approach, is northwest of the Big Horn. It rises in and at the upper extremity of the Wind River Mountains near Togowotee Pass and the water line of the continental divide, and courses southeastward through the Shoshone Indian Reservation to its junction with and formation of the Big Horn River, a distance, in a direct line, of about 100 miles, to near the southeastern limit of the Wind River range of hills. It is joined in its course by Torrey's Fork and Beaver Creek on the northeast side, and by Bull Lake Fork and other smaller affluents on the southwest side. This river and its tributaries extensively water and drain the Shoshone Indian Reservation, the best agricultural and grazing section of the western part of the Territory.

South of the source of Wind River and on the southwestern slope of the northwestern limit of the Wind River Mountain range, rises Green River, which flows nearly southward to the southern limit of the Territory, thence to its junction with the Colorado River. Its length, in a direct course in Wyoming, is about 165 miles; its altitude at old Fort Bonneville, at the mouth of Lead Creek, some 18 miles from its source, is 7,400 feet above the sea level; at Green River City, on the Union Pacific road, 6,130 feet. Its tributaries are Lead, Horse, Marsh, White Clay, Bitter Root, Piney, Feather, La Barge, Slate Creeks, and Ham's, Big and Little Muddy, and Black's Fork Rivers, rising in and flowing from the Salt and Bear River ranges on the west, and Fremont's and New Fork Creeks, Big and Little Sandy Rivers, rising in and flowing from the Wind River Mountains on the northeast, and Bitter Creek, rising about 60 miles east and coursing along the line of the Union Pacific Railroad to Green River City, where it joins Green River. This river is the second in length in the Territory; has a deep channel and a rapid current of good clear water, and, with its tributaries, furnishes a water supply and drainage for nearly one-eighth of the Territory, though much of the region thus watered is mainly available for grazing purposes only. The only tributary of Green River which is impregnated to any great extent with alkali is Bitter Creek. The valley or basin plains of Green River slope with the general trend of the Rocky Mountain chain; hence its drainage is ample.

On the western limit, between Wyoming and Idaho, courses Bear River, which has its source in the Uinta Mountains in Utah. Coursing northward it crosses the south line of Wyoming within 6 or 8 miles of

its southwest corner; it flows northward some 40 miles, when it leaves Wyoming, passing into Idaho northwestward some 40 miles, when it curves sharply to the southwest and empties into Salt Lake. Bridger and Twin Creeks, Smith's Fork, which flows from the southern base of Wyoming Mountain southward, and other minor tributaries, join the Bear from its Wyoming side.

Passing northward we next come to the Snake River where it passes into Idaho. This river has its source a few miles north of Shoshone Lake, in the southern part of Yellowstone National Park, and flows south through Jackson's Lake, some 15 miles from the park, where it sweeps eastward along the southwestern base of the Shoshone range, thence meandering to the southern base of the Teton range, where it passes into Idaho, and thence on northwestward to the Columbia River. The length of the Snake, in Wyoming, is about 100 miles in a direct course which, with its tributaries—Buffalo Fork, Gros Ventre, and Hoback's Rivers from the eastward, and John Davis and Salt Rivers from the south—abundantly water and drain Snake River Valley, which is from 10 to 20 miles wide, and may be regarded as a continuation northward of the Green River Valley, hemmed on either side by high ranges.

The altitude of Snake River at its source is 8,000 feet above sea level; at Shoshone Lake, 7,870 feet; at Jackson's Lake, 6,806 feet, and at the junction of Salt River, 5,742.

The last, though not least, of the larger and most important water-courses of Wyoming is the Yellowstone River, which has its source on the continental divide of the main Rocky Mountain chain and flows therefrom some 25 miles northwest, to the southeast corner of the Yellowstone National Park, thence in the same direction to Yellowstone Lake, a distance of some 15 miles. From this lake the river runs north and northwest to the Montana line, whence it wends its way northeastward and joins the Upper Missouri. The length of the Yellowstone in Wyoming is about 85 miles, and its altitude at its source is 8,385 feet above the sea; at Yellowstone Lake, 7,393 feet, and at the point where it leaves the park on the north, 5,369 feet. Thus it will be seen that the descent of the Yellowstone River, from its source until it leaves Wyoming, is 3,016 feet. The tributaries of the Yellowstone are Tower Creek, flowing from the Shoshone Mountain range on the east along near the northern boundary of the Territory, and Gardiner's River, flowing in from the west. Madison River is a small water-course having its source in Madison Lake in the southwestern part of the park and flows northwestward into Idaho.

Thus it will be observed that nature, in its physical economy, has made a generous distribution of natural water-courses over the Territory, which is important to its industrial interests. A peculiar and interesting feature of this distributing system is the fact that many of its most important streams, as a glance at a Wyoming map will show, find their source within a radius of 10 miles of each other on the continental divide, near the southeast corner of the National Park. Of these the Yellowstone, Wind, and Big Horn flow from the Atlantic slope, and the Snake and Green from the Pacific side.

WYOMING LAKES.

While Wyoming has no large lakes, it has numerous small ones lying among the mountain ranges of the western part of the Territory. As the drainage of this and other sections of the continent is geologically known to have begun a long period before the water-courses were

formed, it is concluded that it was accomplished by the general elevation of the country through its gradual incline to the southward, thus sending the waters which then covered the country to the Atlantic and Pacific. As the waters gradually subsided, they were drained into depressions which formed lakes of greater or less dimensions, serving as reservoirs. Then began the excavation of water-courses, made by the overflow of these reservoirs, above and below the surface seeking an outlet, and the erosive action of the glacial period.

The largest lake in Wyoming is Yellowstone. It is about 22 miles long from south to north, and from 10 to 15 miles wide from east to west, and has been sounded at the depth of 300 feet. It is a beautiful expanse of water, cold, clear, and filled with vegetable growths, and abounds with salmon trout.

Upon the divides on either side of Yellowstone Lake are numerous small lakes at an elevation of 10,000 to 11,000 feet above the sea level, many of which have no outlet, are merely reservoirs for the elevated plateaus. To the southwest of Yellowstone Lake are three lesser lakes, Shoshone, Lewis, Madison, and other small ones. The former is the largest, being about 5 miles long, 3 miles wide, and has an altitude of 8,000 feet above the sea. Lewis Lake, some 5 miles south of Shoshone, is a clear body of water some 2½ miles long by 1½ miles wide. Four or 5 miles west of the west branch of Shoshone is Madison Lake, a beautiful body, skirted with a dense pine forest. It is about 3 miles long north and south, and 2 miles wide east and west. Some 10 miles south of Yellowstone Lake lies Heart Lake, which is one of the sources of Snake River, and nearly as large as Lewis Lake. Besides these there are other lesser bodies, lakelets, nestling on the mountain plateaus and in the lower valleys, which are interesting attractions to the park region.

Descending into Snake River Valley we find, some 40 miles from its source, Jackson's Lake, an irregular body some 8 miles in length, from 2 to 3 in width, and with a sounding of 250 feet in depth, with a good sized island in it. Just below Jackson's Lake are two other lakes, Leigh's and Jenney's, about a mile apart, and which are some 2 miles long by half a mile wide each. Still farther south down this valley are two more interesting lakes, called Taggart and Phelps, which are more or less surrounded by moraines or glacial walls from 150 to 420 feet above the lakes.

The most wonderful feature of the lake system of Wyoming is that mentioned by Gov. N. P. Langford, a former superintendent of the Yellowstone Park, in his report to Dr. Hayden, United States Geologist, in 1872. He says:

> On our descent of Teton Mountain, while yet at a height of 10,300 feet, we crossed a lake 600 yards long by 200 wide, of perpetual ice, which in thickness was about 3 feet, not unlike in character the descriptions given of the most elevated glaciers of the Alps.

This might be called the "Hidden Lake."

Passing southward into the Green River Valley we find Fremont's Lake, a body some 8 to 10 miles long and some 2½ miles wide, lying about 12 miles from Fremont's Peak in the Wind River range. Still farther to the southwest, on the plateau of the Bear River range, near the source of Salt River, lies a beautiful emerald lake, called Alice. There are hundreds of other lesser lakes scattered over the entire area of Wyoming that are useful and beautiful, but too numerous to mention. Thus it is these beautiful and interesting little reservoirs of the drainage system of Wyoming are, to a greater or less extent, scattered all through the mountain ranges and plains of the Territory.

SCENIC FEATURES.

Switzerland has its Alpine mountain ranges and their accompanying features of nature, which command the view, the admiration, and wonder of tourists from all lands. So, too, has Wyoming its "Alpine" ranges in the Rocky Mountain chain, which, with its collateral off-shoots and spurs, rise in lofty grandeur throughout its domain. Its snow-capped peaks, its valleys, basins, and plains are marked with many wonderful curiosities, wrought by the steady, quiet hand of nature, through the various elements at its command, which tell us of the long ages of the past. The wonderful power of these elements—atmoshere, heat, and water—in their various relations is here demonstrated in the upheavals, the depressions, the deep, rock-cut cañons, awe-inspiring cataracts and beautiful cascades, fantastic rocky monuments carved from mountain ranges by the erosive and glacial action of ages past. Mounds, buttes, and dunes rise with artistic symmetry, as though human skill had formed them rather than the action of the drift. These, with the water-courses that flow from mountain ranges down through deep valleys and cañons, falling over rocky ledges for hundreds of feet, across grass-covered plains, with numerous lakes embosomed on the high plateaus, slopes, and bases of these ranges, present scenic views doubtless more grand and more wonderful than any other region of country on the globe.

Of mountain peaks there are but few on the North and South American Continents of greater elevation than Fremont's Peak, of the Wind River range, 13,790 feet above the sea, and, in fact, but few on the globe higher. Among the higher peaks of the several mountain ranges of the Territory are Wind River Peak, 13,400 feet; Grand Teton Peak, of the Teton range, 13,690 feet; Mount Sheridan, 13,691, and Mount Washburn, 10,316 feet, of the Yellowstone range; Index Peak, Shoshone range, 11,500 feet; Wyoming Peak, of Wyoming range, 11,490 feet; Gros Ventre Peak, 11,570 feet, Atlantic Peak, 12,700, both of Wind River range; Yont's Peak, Shoshone range, 11,700 feet; Soda Peak, 9,683; Whiskey Peak, 9,273; Semenoe Peak, 9,930 feet, of the Rattlesnake range; Washakie Needles, Owl Creek range, 12,253; Black Butte, Laramie range, 11,000 feet.

Besides these interesting scenic features of Wyoming, it has numerous soda lakes at the base of the Rattlesnake range of mountains, chalk mountains, painted rocks, and various other natural features which are are objects of general interest.

There is no locality known on the globe where culminates such a grand display of natural scenic wonders as in the Yellowstone National Park—its mountains, valleys, rivers, lakes, cañons geysers, and other interesting objects, which are more fully noted under the head of the "Yellowstone National Park."

GEOLOGICAL FORMATIONS.

The geological surveys of Wyoming have demonstrated that the underlying and outcropping material which forms its physical structure is varied to a large extent in its character. The science which investigates the material masses of this physical structure is not only interesting but valuable in determining its formation, nature, and extent, and its economic qualities, whether of mineral or vegetable production, and the causes of these great upheavals of the earth's crust, which we find so prominent within the limits of this Territory.

Following the course of geological investigations thus far made from east to west, it is found that the various physical formations of Wyoming are—avoiding technical terms as much as possible—composed of different species of sand, clay, marl, rocks, fossils, &c., all indicating the geological ages and periods in which they were formed.

From the best information at hand—that of Dr. Hayden, United States geologist, and later, of Professor Aughey, Territorial geologist—it is ascertained that the rocky formations east of the Laramie range of mountains are of modern age, belonging mainly to the Tertiary or upper of the third of the rock strata here found, and its exposure along the little water-courses show gravel and bowlders resting here and there upon hardened deposits of sands, marls, and clays of the lake sediment species. There also appear strata of hardened sandstone. Approaching the base of the mountain range more or less feldspathic gneiss is found. From Cheyenne to Fort Fetterman the surface of the country is undulating, of rounded hills, ridges, and valleys, with similar underlying formations as noted about the former place. Along some of the small water-courses northward are found abundant formations of limestone of the Carboniferous or coal formation period, which are full of fossils of the genus of stone lillies. These are some of the evidences that the region east of the Laramie and Black Hills ranges was, during the Upper Tertiary period, a fresh-water lake, of which this range was the western rim. These various slight deposits seem to indicate that they were carried, through forces acting from the mountains, to the plains below, and their contrariety is produced by these forces sweeping down the mountain declivities over the upturned ledges of the various rocky strata, taking portions of the different geological formations and scattering them over the plains. Whatever species of rocks are thus deposited to any considerable extent, the drift carried to the plains is of like character. When the red sandstone rocks predominate the drift is also more or less red. This is also true with the carboniferous limestone or other strata.

Passing northward beyond Fort Fetterman to the north line of the Territory there appears no very material difference in the geological formations. The general surface of the country between the Black Hills on the east and the Big Horn range on the west is of about the same general character as that noted on the south. While in earlier periods it doubtless contained mountain ranges, succeeding periods of geological time have, through steady and continual erosive action, worn them away to moderate hills which bear vegetation upon their slopes and summits. Besides, this vast extent of country now presents high buttes and moderate sand dunes and ridges, which this erosive process has left to bear evidence of the power and work of the elements and tell the story of the waters of past ages which washed the base of the mountains of to-day. Rawhide Buttes, some 25 miles north of Fort Laramie, belong to a group of high hills which expose strata of carboniferous limestone rocks or gneissic and occasional outcroppings of reddish feldspathic granites. These buttes rise some 700 feet high, and send out several streams, of which Rawhide Creek is the largest. It is supposed that these isolated buttes and mountains were islands in the great fresh-water lake which no doubt existed during the Tertiary period.

Passing westward over the Laramie and Big Horn ranges, a variety of geological formations are found which are both interesting and important.

On the eastern slope of the Laramie range, the tertiary formations disappear and the carboniferous limestone appears resting on granite

formations. All along this range northward, carboniferous limestone, triassic red sandstone, jurassic limestone, and cretaceous chalk formations appear cropping out. Where these are overlaid with the modern tertiary formations, lignite (a mineral coal) appears. Following the line of the Union Pacific Railroad up over the Laramie range, we ascend from an elevation of 6,072 feet, at Cheyenne, to that of 8,242 feet at the summit near Sherman, a difference in ascent of 2,170 feet in a distance of 32 miles. The range north and south is furrowed more or less with upheaved ridges which present brick-red colored sandstones, giving a marked appearance to the scenery. The more recent formations rest on strata of almost inexhaustable white limestone, which is valuable to the Territory as an economic material. Besides this, there is an abundance of other rock material for building and other purposes. On each side of this range are massive elevations of syenite, which, in the distance, look like castles of old. This granite is feldspathic and is susceptible of fine polish, and, in the most part, composes the formation of the range with gneissic strata surrounding it.

Crossing the Laramie Plains the Medicine Bow Mountains show similar rock formations as the Laramie, the triassic or red sandstone, and the jurassic and cretaceous limestone. Generally along the Medicine Bow northward, including the Rattlesnake and Big Horn ranges, the granite and cretaceous formations predominate with more or less of triassic red sandstone croppings. The upheavals of these ranges are remarkable, showing great disturbance of the earth's crust during the ages of its formation. Then, too, the general surface has been and is constantly undergoing changes in its physical features through erosion and the drift, the former to the exposure of Silurian rocks. It is singularly unusual to find rocks older than the Jurassic south of the Sweetwater River.

From the Medicine Bow and Sierra Madre ranges northward to the Sweetwater Hills and Rattlesnake Mountains, siliceous rock formations appear, which furnish fine building material and which are extensively used by the railroad people and others. Above these extensive and thick strata appears blue limestone in abundance; and still above this are found red sandstone formations of the Cretaceous class. The eastern part of the Sweetwater range comprises steep granite hills covered to a greater or less extent with sedimentary strata of the Carboniferous age. Erosion has, along this range, worked great changes in them, as well as in the valleys through them. The region south of the Sweetwater range on the western limit of the Territory is largely composed of fresh water or marine tertiary beds including "Red Desert," with numerous fresh-water lakes filled with fresh-water shells. Table Rock, in "Red Desert," is a square butte, rising 400 feet above the level of the Union Pacific Railroad, near which it stands, and is conglomerated from the beds of a sandstone largely of fresh-water shells.

Along Bitter Creek westward similar formations of the marine tertiary appear, underlying which are extensive coal measures of Southern Wyoming. Next below the coal measures are found thick strata of yellow sandstone, inlaid with iron indications, and which, in places, rise to nearly perpendicular bluffs; and, through erosive action, they present all kinds of curious and fantastic formations, which have attracted the admiration of tourists and citizens. In the strata of this extensive sandstone formation are found preserved large quantities of deciduous leaves, the ash, elm, maple, poplar, &c., besides other flora fossils, including a species of palm, of the fan-leaf order, which sometimes reaches a spread of 10 feet. This species of flora fossil, thus pre-

served in the rocks of Wyoming, is proof that its ancient or lower formation forests were far different in species than those of to-day. There are also, immediately over some of these coal measures, strata of oyster shells several inches thick (about the size of our common edible ones), which mark the Silurian or age of molusks. Along this same range of hills are found extensive tabular strata of hard rock excellent for flagging purposes. Many of these show traces of waves and ripples made by water, and again we find impressions resembling mule tracks on the soft ground before it forms into rock. Also beds of petrified fish, evidence perhaps of the northern limit of the ocean. Passing into Green River Valley the shale or slaty formations appear more or less. The rocks in the lower part of this valley are of a dark color, and are more or less impregnated with an oily substance. Besides these petroleum strata, there also appears a chalky or cretaceous limestone. Even the limestone strata in and along this valley are blackened by saturation with petroleum. The Green River Valley also shows fossils of fishes in its rocks which seem to belong to the Devonian age; they also show fossil impressions of insects, of water plants, and bird feathers. Beds of cannel coal exist here from 15 to 20 feet thick, which experts say will yield 50 to 60 gallons of oil per ton. At this rate some single beds would yield 20,000,000 barrels of oil, or more than the total yield of this country since its first discovery. Stone gems are also found in the Green River Valley, especially moss agates, in great profusion, with opals and quartz.

The vast area of tertiary surface from Rawlins westward to the Bear River range, including Green River Valley, was doubtless once a great lake with the Uinta Mountains as its southern shore line. A distinguished geologist has graphically described it thus: "Looking from the summit of a high ridge on the east, a tract of country containing 500 or 600 square miles is distinctly visible. Over the whole surface is rock, bare rock, cut into ravines, cañons, gorges, and valleys, in magnificent relief, terrace upon terrace, pyramid beyond pyramid, rising to mountain heights; amphitheaters that would hold a millions pectators; walls, pillars, towers, castles everywhere. It looks like some ruined city of the gods, blasted, bare, desolate, but grand 'beyond a mortal's telling.' Originally an elevated country, composed of a number of soft beds of sandstone of varying thickness and softness, underlaid by immense beds of shale, it has been worn down and cut out by rills, creeks, and streams, leaving this strange, weird country to be the wonder of all generations."

The rock formations of Big Horn Mountains and Valley are very similar to those on the east and south toward the Wind River and Rattlesnake Mountain ranges. The older rock formations, the Carboniferous, Triassic, and Jurassic, very generally appear, with less of the Cretaceous or newer formations than south of the general Rocky Mountain chain, except perhaps the valley plains, with more or less of the Tertiary drift overlying them. In the Wind River Valley the fantastically eroded, friable, gray sandstone buttes cover both slopes of the Wind River and Shoshone ranges. The formations of Snake River Valley are carboniferous limestone on the western slope of the Shoshone range, as shown in the lower and upper Gros Ventre Buttes, and some formations crop out as low as the lower Silurian, which appear along the eastern slope of the Teton range. The mass of the ranges on either side of this valley are composed mainly of dark gray gneiss rocks and gneissic granite. The hills and low lands of this valley being covered with grass show less exposure of rock formations. Gold is said to exist in the drift of Snake River, Gros Ventre, and other streams of this valley.

THE FLORA OF WYOMING.

The flora of Wyoming is, to a greater or less extent, a test of the fertility of its soil in the production of vegetation. Experiments have shown that whenever there is soil in these mountainous regions it has the primary elements of productiveness. The extent to which this is productive of vegetation depends, of course, upon the depth of the surface stratum of the mold, of the drift elements which compose it, and of moisture. To the extent these essentials exist the flora of the Territory flourishes.

There are many hundreds of plants indigenous to Wyoming found within its borders which flourish wherever vegetation is found. Their complete enumeration, by their botanical names, would be too extensive for the limits of this report. The flora of the Territory comprehends, in addition to the flowering plants, large variety of grasses, some sixty species; mosses, lichens, and various species of tree flora. While some varieties of the latter—the aspen, box-elder, cottonwood, ash, willow, and buffalo shrub—are found along the various water-courses, the real forests of the Territory are in the mountain ranges, which mainly consist of the coniferous species—pine, cedar, spruce, hemlock and fir. The pine is generally of the Norway species, hard and white. The thriftiness and density of the coniferous forests vary in different parts of the Territory and their elevation on the mountain ranges. The Teton, Shoshone, Wind River, Owl Creek, and Big Horn ranges contain the heaviest and thriftiest bodies of timber, while the Sweetwater, Rattlesnake, Medicine Bow, and Laramie ranges are fairly supplied. East of the South Powder are densely wooded tracts.

TIMBER.

An interesting feature concerning the growth of timber is the limit of altitude at which it will grow. Measurements of timber limits of various mountains have been made, which show the heights, in their respective latitudes, above which coniferous trees—the hardiest of any species—will not grow. The timber line of Mount Washburn is 9,900 feet above sea level, while the altitude of that mountain is 10,388; the timber line of Mount Hayden, of the Teton range, is 11,000 feet, while its altitude is 13,858 feet above the sea; the timber line of Wind River range is 10,160 feet, while its general altitude is 11,500 feet above the sea. The timber lines of other Wyoming mountains are given, but the foregoing suffice to illustrate the elevation at which the hardiest flora will grow.

On the eastern slope of the continental divide the timber grows to a greater height, is straighter and more dense than on the western slope. This is owing, doubtless, to a lower altitude and to stronger vegetation properties. The growth of timber in Wyoming, during its general occupancy by the Indians, was also, to a great extent, retarded by forest fires, which, to a greater or less degree, is the cause of its sparseness on the plains, and its comparative small size in general. The fact that wherever trees are transplanted in localities along the streams they grow without care or attention; and they will also grow in almost any locality on the plains if water is furnished them through irrigation, and devastating prairie fires are not allowed.

As a whole, the flora of Wyoming, its flowering plants of many genera and over a thousand species, its shrubs and forest trees, will compare favorably with any region of the mountainous sections of the continent. With the exception of the harder varieties of timber,

such as beech, maple, oak, hickory, &c., which do not naturally grow in Wyoming, the indigenous species, because of their hard, tenacious qualities, supply nearly all the demands required for economic uses.

From the most reliable data obtainable it is estimated that Wyoming contains an area of about 24,000 square miles, or nearly 16,000,000 acres, of forests, distributed over the Territory as above indicated. Large quantities of the timber of this vast area are suitable for manufacturing purposes.

FAUNA OF WYOMING.

The fauna of Wyoming is extensive in all its genera and species. Probably no State or Territory excels it in this respect.

ARTICULATA AND MOLLUSKA.

Of the Articulata (jointed animals) Wyoming has a moderate proportion as compared with other sections of the country, such as worms, spiders, insects, &c. But there is no section of the continent where the human family and the domestic animals are as slightly annoyed with flies, mosquitoes, fleas, and similar pests, as in this Territory. Hence man and beast can rest secure from these afflictions. This is found to be a great advantage to the immense live-stock interests so extensively engaged in here.

There are about eighty species of the Molluska fauna, the snail, clam, &c.

The amphibious fauna also has its representatives in the frog, &c., as does the reptilian fauna of that age in reptiles, such as the rattlesnake and other common species.

FOOD-FISHES.

The Devonian age, the next in order of animal life, first developed this species of animal food. Of these, some fifty species abound in the water-courses and lakes of Wyoming, including the choice favorite of all, the speckled mountain-brook trout. These are plentiful in all the clear, cool water-courses of the Territory, except the North Platte and its tributaries, and include some three species. Besides, there are several species of suckers, catfish, bass, pickerel, sunfish, pike, &c., in the various water-courses of the Territory.

The legislature of the Territory has enacted laws for the propagation and protection of fish in its water-courses and lakes for food purposes, and to that end provides for a commissioner appointed by the governor, who has "entire control and supervision of the public waters pertaining to the collection, propagation, culture, distribution, and protection of fish in Wyoming Territory, and shall distribute all fish coming into his hands, fairly among the several counties." Each county also appoints a county fish commissioner. The last report of the commissioner, just submitted to this office, shows that a fish hatchery has recently been constructed near Laramie City, on the abandoned military reservation of Fort Sanders, adjoining Laramie River, in which the first installment of 200,000 eggs of the salmon trout species were deposited. Prior to this, however, the work had been carried on by the commissioner for some five years, through the purchase of young fish for distribution. Since then, September, 1884, 631,000 salmon trout, brook trout, whitefish, and carp have been hatched and distributed in the waters of the Territory. Thus it will be seen that the propagation and protection of fish in the waters of Wyoming is contributing largely

to the food supply of the Territory, and is protected by law, in relation to the damming of streams, the time when fish must not be caught, &c.

BIRDS.

An interesting genera of the fauna of a section are the birds. A list of those inhabiting this Territory includes about one hundred and twenty-five species, of which some twelve species are birds of prey, besides game and various other species.

The following list has been kindly furnished by Mr. Frank Bond, who has given years of attention to this subject in this Territory, and has gathered and mounted a large collection for his private museum.

A list of the birds of Wyoming.

Order.	Family.	Common name.	Species.
Passeres	Turdidæ	Robin	Turdus migratorius.
		Olive-backed thrush	Turdus unilascæ swainsonii.
		Hermit thrush	Turdus unilascæ nanus.
		Mountain mocking-bird	Oroscoptes montanus.
		Cat-bird	Mimus carolinensis.
		Brown thrush	Harporhynchus rufus.
		Water ouzel	Cinclus mexicanus.
		Western blue-bird	Sialia mexicana.
		Ruby-crowned kinglet	Regulus calendula.
		Golden-crowned kinglet	Regulus satrapa.
		Blue-gray gnat-catcher	Polioptila cœrulea.
	Paridæ	Long-tailed chickadee	P. A. septentrionalis.
		Mountain chickadee	P. montanus.
		Plumbens bush-tit	Psaltriparus plumbens.
	Sittidæ	Slender-billed nuthatch	Sitta carolinensis aculeata.
		Red-billed nuthatch	Sitta canadensis.
		Pygmy nuthatch	Sitta pygmæa.
	Certhiidæ	Brown creeper	Certhia familiaris.
	Troglodytidæ	Rock wren	Salpinctus obsoletus.
		Western house wren	Troglodytes domesticus parkmani.
		Winter wren	Anorthura troglodytes hyemalis.
		Long-billed marsh wren	Telmatodytes palustris.
		Short-billed marsh wren	Cistothorus stellaris.
	Alaudidæ	Horned lark	Eremophila alpestris.
	Motacillidæ	American titlark	Anthus ludovicianus.
		Sprague's pipit	Neocorys spragui.
	Sylvicolidæ	Blue yellow-backed warbler	Parula americana.
		Nashville warbler	Helminthophila ruficapilla.
		Orange-crowned warbler	Helminthophila celata.
		Tennessee warbler	Helminthophila peregrina.
		Summer yellow bird	Dendrocca æstiva.
		Western yellow-rump warbler	D. audaboni.
		Blackburn's warbler	D. blackburnæ.
		Black-and-yellow warbler	Dendrœca maculosa.
		Wag-tail warbler	Siurus nævius.
		Maryland yellow-throat	Geothlypis trichas.
		Macgillivray's warbler	Geothlypis Macgillivrayi.
		Long-tailed chat	Icteria virens longicauda.
		Black-capped fly-catcher	Myiodictes pusillus.
		American redstart	Setophaga ruticilla.
	Tanagridæ	Crimson-headed tanager	Piranga ludoviciana.
	Hirundinidæ	Barn swallow	Hirundo erythrogastra horreorum.
		White-belled swallow	Tridoprocne bicolor.
		Cliff swallow	Petrochelidon lunifrons.
		Bank swallow	Cotile riparia.
		Rough-winged swallow	Stelgidopterix serripennis.
		Purple martin	Progne purpurea.
	Ampelidæ	Bohemian waxwing	Ampelis garrulus.
		Carolina waxwing	Ampelis cedrorum.
		Townsend's fly-catching thrush.	Myiadestes townsendi.
	Vireonidæ	Red-eyed vireo	Vireo olivaceus.
		Plumben's greenlet	Vireo solitarius plumbens.
	Laniidæ	White-rumped shrike	Lanius ludovicianus excubitoroides.
	Fringillidæ	Evening grosbeak	Hesperophona vespertina.
		Pine grosbeak	Pinicola enucleator.
		Purple finch	Carpodacus purpureus.

A list of the birds of Wyoming—Continued.

Order.	Family.	Common name.	Species.
Passeres	Fringillidæ	American red cross-bill	Loxia curvirostra americana.
		Swainson's rosy finch	Leucostcte tephrocotis.
		Pine linnet	Chrysomitris pinus.
		American goldfinch	Astragalinus tristis.
		Snow bunting	Plectrophanes nivalis.
		Lapland longspur	Centrophanes lapponicus.
		Chesnut-collared longspur	Centrophanes ornatis.
		Black-breasted longspur	Rhynchophanes maccowni.
		Baird's savanna sparrow	Passerculus bairdi.
		Common savanna sparrow	Passerculus sandvicensis savana.
		Bay-winged bunting	Povecetes gramineus.
		Lincoln's song sparrow	Melospiza lincolni.
		Swamp song sparrow	Melospiza palustristris.
		Eastern snow bird	Junco hiemalis.
		Gray-headed snow-bird	Junco hiemalis caniceps.
		Tree sparrow	Spizella monticola.
		Chipping sparrow	Spizella domestica.
		Clay-colored sparrow	Spizella pallida.
		White-browed crown sparrow	Zonotricha leucophrys.
		Lark sparrow	Chondesta grammica.
		White-winged blackbird	Calamospiza bicolor.
		Black-headed song grosbeak	Zaurelodia melanocephala.
		Lazuli painted finch	Passerina amœna.
		Arctic towhee	Pipilo maculatus arcticus.
		Green-tailed towhee	Pipilo chlorusus.
	Icteridæ	Cowbird	Molothrus ater.
		Red-winged blackbird	Agelaeus phœniceus.
		Yellow-headed blackbird	Xanthocephalus icterocephalus.
		Western meadow lark	Sturnella neglecta.
		Bullock's oriole	Icterus bullocki.
		Blue-headed grackle	Scolecophagus cyanocephalus.
	Corvidæ	American raven	Corvus corax.
		White-necked raven	Corvus cryptoleucus.
		Common American crow	Corvus frugiverus.
		Clark's crow	Picicorvus columbianus.
		Blue crow	Gymnocitta cyanocephala.
		Magpie	Pica rustica hudsonica.
		Stellar's jay	Cyanocitta stelleri.
		Long-crested jay	Czanocitto macrolopha.
		Rocky Mountain jay	Perisoreus canadensis capitalis.
		King-bird	Tryannus carolinensis.
	Tyrannidæ	Arkansas fly-catcher	Tyrannus verticalis.
		Cessius tyrant fly-catcher	Tryannus vociferans.
		Ash-throated flycatcher	Myiarchus cinerescens.
		Say's Bewee flycatcher	Sayiornis sayi.
		Little western flycatcher	Empidonax pusillus.
		Hammond's flycatcher	Empidonax hammondi.
		Wright's flycatcher	Empidonax obscurus.
Picariæ	Caprimulgidæ	Nuttall's poor-will	Phalænoptilus nuttalli.
		Night-hawk	Chordeiles popetue.
	Cypselidæ	White-throated rock swift	Panyptila saxatilis.
		Northern black-cloud swift	Nephœcetes niger borealis.
	Trochelidæ	Ruby-throated humming bird	Trochulus colubris.
	Alcedimdæ	Belted king-fisher	Ceryle alcyon.
	Cuculidæ	Black-billed cuckoo	Coccygus erethrophthalmus.
	Picidæ	Pileated woodpecker	Hylotomus pileatus.
		Hairy woodpecker	Picus villosus.
		Pole-backed three-toed woodpecker.	Picus arcticus dersalis.
		Red-bellied woodpecker	Centurus carolinus.
		Red-headed woodpecker	Melanerpes erithrocephalus.
		Mexican flicker	Coluptes mexicanus.
Raptores	Strigidæ	Great horned owl	Bubo virginianus.
		Screech owl	Scops asio.
		American long-eared owl	Asio wilsonianus.
		Short-eared owl	Asio accipitrianus.
		Burrowing owl	Speotyto cunicularia hypogæa.
	Falconidæ	Marsh harrier	Circus cyaneus hudsonius.
		Sharp-shinned hawk	Accipiter fuscus.
		Cooper's hawk	Accipiter cooperi.
		American goshawk	Astur atricapillus.
		Lanner falcon	Falco mexicanus.
		Peregrine falcon	Falco peregrinus.
		Pigeon falcon	Falco columbarius.
		American merlin	Falco columbarius richardsoni.
		Rusty-crowned falcon	Falco sparverius.
		Red-tailed buzzard	Buteo borealis.
		Swainson's buzzard	Buteo swainsoni.
		American rough-legged buzzard.	Archibutes lagopus sancti-johannis.
		Ferruginis rough legged buzzard.	Archibuteo ferrugineus.

A list of the birds of Wyoming—Continued.

Order.	Family.	Common name.	Species.
Raptores	Falconidæ	Golden eagle	Aquila chrysætus.
		Bald eagle	Haliærus leucocephalus.
		Fish hawk	Pandiori haliætus.
Columbæ	Columbidæ	Morning dove	Zenaidura caroliuensis.
Gallinæ	Telraonidæ	Spine-tail grouse or sage grouse	Centrocercus urophasianus.
		Pin-tail grouse	Pedioecetes phasianellus.
		Gray ruffed grouse	Bonasa umbellus umbelloides.
		Willow ptarmigan	Lagopus albus.
		Rocky Mountain snow grouse	Lagopus leucurus.
Limicolæ	Charadriinæ	Black-bellied plover	Squatarola helvetica.
		Golden plover	Chradrius dominicus.
		Killdeer plover	Ægialitis vociferans.
		Ring-neck plover	Ægialitis semipalmatus.
		Mountain plover	Pedasocys montanus.
	Recurvirostridæ	American avocet	Recurvirostra americana
		Stilt	Himantopus mexicanus.
	Phalaropodidæ	Wilson's phalarope	Steganopus wilsoni.
		Northern phalarope	Lobipes hyboboreus.
	Scolopacidæ	Wilson's snipe	Gallinago wilsoni.
		Red-breasted snipe	Macrorhamphus griseus.
		Semi-palmated sandpiper	Ereuntes pusillus.
		Least sandpiper	Actodromus minutilla.
		White-rumped sandpiper	Actodromus bonapartii.
		Great marbled godwit	Limosa fœda.
		Willet	Symphemia semipalmata.
		Greater yellow-shanks tatler	Totanus melanoleucus.
		Lesser yellow-shanks tatler	Totanus flaviceps.
		Solitary tatler	Rhynascophilus solitarius
		Spotted sandpiper	Tringoides macularius.
		Upland plover	Bartramia longicauda.
		Long-billed curlew	Numenus longirostris.
Herodiones	Ardeidæ	Great blue heron	Ardea herodias.
		Green heron	Butorides virescens.
		American bittern	Botaurus mugitans.
Alectorides	Gruidæ	White or whooping crane	Grus americana.
		Sand-hill crane	Grus pratensis.
	Rallidæ	Virginia rail	Rallus virginianus.
		Coot	Fulica americana.
Lammellrostres	Anatidæ	Trumpeter swan	Cygnus buccinator.
		American white-fronted goose	Anser albifrons gambeli.
		Snow goose	Chen hyperboreus.
		Canada goose	Branta canadensis.
		Hutchin's goose	Branta canadensis hutchinsi.
		Mallard duck	Anas boschas.
		Pin-tail duck	Dafila acuta.
		Gadwall duck	Chaulelasmus streperus.
		Widgeon	Mareca americana.
		Green-winged teal	Querquedula carolinensis.
		Blue-winged teal	Querquedula discors.
		Cinnamon teal	Querquedula cyanoptera.
		Shoveller duck	Spatula clyeata.
		Wood duck	Aix sponsa.
		Red-head duck	Fuligula ferina Americana.
		Canvas-back duck	Fuligula vallisneria.
		Buffle-head duck	Clangula albeola.
		Goosander	Mergus murganser.
		Hooded merganser	Mergus cucullatus.
Steganopodes	Pelicanidæ	American white pelican	Pelicanus trachyrhynchus.
Longipennes	Laridæ	Ring-billed gull	Larus Delawarensis.
		Common tern	Sterna hirundo.
		Black tern	Hydrochelidon lariformis.
Pygopodes	Colymbidæ	Great northern diver or loon	Colymbus torquatus.
	Podicipedidæ	Horned grebe	Podiceps cornutus californicus.
		Pied-bill grobe	Podylympus podiceps.

MAMMALS.

The next and last genera of the fauna of Wyoming are the mammals. Probably no State or Territory of the nation can present a more general and extensive catalogue of this genera. There are about thirty known species, of which the following are prominent:

The blunt-nose and Gela bats; the jumping and the bank mice; the mountain rat; the red, striped, and the lined tail squirrels; weasels;

the yellow and the striped skunks; wolverines; the marmot or woodchuck; the yellow porcupine; the prairie dog; bairds and the jack rabbits, of which the woods and the plains are full. Of the fur-bearing animals are the mink, otter, ermine, and American beaver. Of the animals of prey, are the red, grey, silver-grey, cross, and the swift fox; the gray wolf; coyotes; lynx; badger: wild cat; the black footed ferret; and the mountain lion.

The game animals are the mountain sheep; mountain goat; antelope; elk; the black and the white tailed deer; the moose; the black, cinnamon, brown, and the silver grizzly bears, although the grizzly species is not so numerous as the others named. The buffalo has nearly become extinct, though there are a few in the Yellowstone Park and in some of the more isolated regions of the northwestern portion of the Territory.

Wyoming in its more primitive days was a paradise for wild animals, which roamed over its domain by thousands, and perhaps millions. But after the advent of the Union Pacific Railway, the pioneer settler, the merciless hunter and sportsman from the States, and from foreign countries even, their numbers grew less—grew less because of their great slaughter for gain and sport, until to-day many of the larger species are becoming scarce. To check the destruction of the food game of Wyoming, to the unreasonable and merciless extent to which it had been carried for gain and for sport, the legislature, in 1869, enacted a law for its protection. This was amended in 1875 by a more stringent enactment, "For the protection, and to prevent the destruction, of wild game." Among other things, limiting the time when it might be killed for food only. In 1882, the legislature again amended the law with still more stringent provisions and penalties for its violation. This latter enactment is the law of the Territory, and prohibits the pursuing, hunting, or killing or capture by any means, of deer, elk, moose, mountain sheep, mountain goat, antelope, or buffalo between August 1 and October 15 in each year. It also prohibits the killing or destruction, by any means, of any species of game birds, except within the prescribed limits, from spring time until autumn; and quail and some other kindred species are prohibited from being killed at all until March, 1886, and thereafter only in the month of September. It also prohibits the killing or ensnaring of wild ducks, brant, and geese, between May 15 and August 15 of any year. It is also unlawful to kill any fowl or bird that subsists on insects only as food, during any time of any year. The existing enactment also prohibits the sale or exposure for sale of the carcass, or any part thereof, suitable for food, of any of the species of animals or birds enumerated in the law, save during the time allowed for their killing. It is also unlawful for any person, company, or corporation to purchase or obtain in any manner any green or untanned hides of any of the animals mentioned above; or to transport the same after the passage of the present law, enacted March 9, 1882. The law also provides that no person shall kill more of the game animals thus named than they can use or dispose of for food; except that any citizen of the Territory may kill any game for his own and family's use for food within 10 miles of the residence of such citizen.

The penalty for the violation of the game law of Wyoming is a fine of $100 for each offense, or imprisonment, or both.

Thus it will be seen that the reckless and inordinate slaughter of the wild game of Wyoming is prohibited by law, accompanied with stringent penalties, which the executive authorities are bound to enforce.

CLIMATIC CHARACTER.

Climate being the atmospheric condition of a locality in relation to the phenomena of heat, cold, moisture, &c., it has much to do with changing the tone and habits of the body and mind of mankind—more or less affects animal life. Temperature is insidious in its effect upon the sensibilities of the human structure, in its work of strengthening or weakening them. Hence it is that altitude and latitude are important considerations in the selection of human abodes. Scientific conclusions and practical observations are the best tests in this relation.

Experience, in very many cases, has amply demonstrated that the climatic characteristics of the elevated portions of the continent are more favorable to health and longevity, have a greater controlling influence over most diseases to which flesh is heir, than the lower altitudes on the sea-coasts and in the great river valleys. The climate of these latter regions is more or less affected by marine or ocean influences which are very dissimilar to those of the great central elevations of the continent. The climatic influences on the coasts of the Atlantic and Pacific Oceans also vary. Along the same parallel of almost any degree of north latitude from east to west, from ocean to ocean, the atmosphere increases in warmth. Were it not for the heat of the tropical regions, which is distributed over the continent by atmospheric currents as well as by the thermal ocean and gulf currents, the high elevations of the Rocky Mountain regions would be too rigorously cold for habitation. But through these tempering influences they are not only habitable, but delightful and healthful portions of the continent; far more so than the Atlantic coast, or the great river valleys which approximate the sea-level on either side of the great continental divide. The humid tropical winds and the equatorial warm Japanese currents of the North Pacific Ocean—which are similar to the Gulf Stream of the Southern Atlantic—reaching the western and southern shores of the continent, produce the mild and even temperature of these coasts, and, with climatic modifications, extend to the elevated Rocky Mountain regions of the interior.

These modifications are mainly produced by the high snow-capped and almost unbroken mountain ranges of the western coast—the Cascade and the Sierra Nevada, the latter of which is covered with dense forests to an elevation of some 8,000 feet; while still above this lies perpetual snow. These, to some degree, are barriers against the extension of these warm atmospheric currents of the oceans over the interior Rocky Mountain elevations. Hence, as these mild winds, heated by the tropical ocean currents, sweep over the snow-capped mountain ranges and around their extremities, and thus pass over vast arid regions in their course to the great Rocky Mountain elevations, they become somewhat tempered, and give to them the salubrious climate that we have. The moisture that comes upon the mountain ranges, in the way of rain, during the rainy season of the Pacific coast, is slight from January to May.

Up the Pacific coast and north from San Francisco, and about west from Salt Lake and the southern limit of Wyoming, the humid Japanese currents strike the coast, as evidenced by the increase of rainfall. At Sacramento the average rainfall for the winter months of 1878, 1879, and 1880, was 12.53 inches; for the spring months, 6.94 inches; for the summer months, .04 inch; for the autumn months, 1.53 inches; making a total average of 24.04 inches for each of those years. At Fort Canby, Wash., 555 miles farther north, the average rainfall for the four

seasons of the same years was: For winter months, 32.81 inches; for spring months, 13.66 inches; for summer months, 5.60 inches; for autumn months, 14.59 inches; making the total average 66.60 inches, or a difference of 42.57 inches in favor of the northern point. Again, the mean annual temperature at San Francisco is about 55°, while the mean annual temperature at Steilacoom, Wash., 650 miles north, is 51° a difference of only 4°.

As evidence of the fact that the climatic temperature increases in warmth from east to west, it is only necessary to note that the mean annual temperature of Augusta, Me., on the Atlantic coast, is 45°, while that of Steilacoom, Wash., on the Pacific coast, is 51°. The mean annual temperature of Boston is 48°, while that of San Francisco is 55°. At Fort Bridger, in Southwestern Wyoming, about on this parallel of latitude from Boston to San Francisco, and some 800 miles east of the latter place, the mean annual temperature is 41°, and this at an altitude of 6,753 feet above the sea-level, that much higher than that of either of the other terminal coast points.

As the North Pacific winds from the west pass over the Japan currents, they are warmed by superabundant heat and bring both moisture and warmth to our western coast. Between the fourtieth and forty-seventh parallels of north latitude they suddenly fall in temperature through a change of climatic conditions, and rainfall follows. Meteorological records near the mouth of the Columbia River note a total rainfall of over 7 *feet* in a single year.

The humid equatorial winds which thus approach the Pacific coast, pass over the surface of the continent eastward, producing varied climatic conditions as they rise over and beyond the Cascade and Sierra Ranges, through valleys, over the great plains, and across the Rocky Mountain plateau, of which Wyoming is a part. These atmospheric conditions, with which this Territory is thus surrounded, give it a climate salubrious and enjoyable.

Wyoming being centrally located in the great elevation and plain region, has the advantage of varied climatic degrees through its mountains and valleys, its surface altitude being about 6,000 feet above the sea-level. From this general surface of the plains, mountain ranges, plateaus, and peaks rise from 6,000 to various elevations up to 13,850 feet, the altitude of the highest peak, and from the same general surface the altitude of the valleys fall from 6,000 to various elevations as low as 3,500 feet above the sea-level.

Forests are not produced where rainfall, which includes snow, is less than 25 inches. Hence, the higher the mountain the more the moisture; and moisture retains heat, and heat tempers the atmosphere, and gives us our various climatic conditions.

The average mean annual temperature of the entire Territory which lies north of the isothermal line of 52°, is about 44°. In the mountain ranges it is sometimes as low an average as 36°; while on the plains on the east it averages 45° to 46°. In the Green River Valley region the average is about 42°, and in the Big Horn Valley about the same, while in the valleys of the Sweetwater, North Platte, and Powder Rivers, it is near that of the eastern plains.

The valleys of the Big Horn, Green, Sweetwater, and the North Platte extension of the latter are great distributions of the warm ocean current winds from the Pacific coast over the Territory, the Green and Sweetwater Valleys being connected by the South Pass, an opening between the Wind River and Sweetwater Mountain ranges; which, by the way, became historic as the great overland trail to the western

coast before the advance of the Union Pacific Railway, and is said to have been first traversed by General Fremont.

The climatic influences thus outlined, as culminating in Wyoming, makes the Territory a superior region of the continent for the abode of mankind; superior because of its high, dry, mild and equable atmospheric conditions, with a salubrity unexcelled. Its greatest humidity is from the middle of autumn to the middle of spring, the remaining portions of the year being dryer. In midsummer there are some few days when the heat rises to 90° at meridian, but the nights are always cool. And so in midwinter, there are some days, but seldom continuous, when the temperature falls to zero, and even far below, but it is not felt as severely as the temperature at 15° or 20° above zero in low humid altitudes of the coasts or great river valleys.

The annual rain (including snow) fall of Wyoming prior to the past three or four years was from 9 to 14 inches, but the past three years it has increased.

Although high winds sometimes prevail, cyclones and tornadoes never visit this Territory; neither are thunder storms frequent. These conflicts of the atmospheric currents are wholly incident to the vast plains below.

To more definitely show the variations and the mean temperature, rainfall, and prevailing winds of Wyoming, for the past ten years or more, from January, 1875, to November 1, 1885, the following meteorological observations, made at the United States Signal Service station at Cheyenne, are given:

Year.	Month.	Barometer.	Thermometer.			Amount of rainfall.	Prevailing direction of wind.	Max. velocity per hour.
			Mean.	Max.	Min.			
		°	°	°	°	*Inches.*		*Miles.*
1875....	January	29.795	12.5	43	38	.42	W.	.....
	February	29.820	25.6	55	−11	.06	W.	.....
	March	29.810	24.3	62	− 9	.23	NW.	.....
	April	29.945	36.9	66	2	.50	NW.	.....
	May	29.913	54.7	80	25	1.20	NW.	.....
	June	30.004	63.7	93	35	.29	W.	.....
	July	30.108	64.0	86	46	4.47	NW.	.....
	August	30.052	63.2	88	36	2.12	NW.	.....
	September	30.113	56.0	87	26	1.34	NW.	.....
	October	30.045	47.9	75	11	.60	NW.	.....
	November	29.857	30.3	60	−20	.84	W.	.....
	December	29.850	33.4	57	3	.03	NW.	.....
1876....	January	29.851	23.8	54	1	.02	W.	.....
	February	29.854	30.7	58	0	.06	W.	.....
	March	29.781	26.8	60	3	.54	NW.	.....
	April	29.894	42.4	75	4	.23	W.	.....
	May	29.904	50.6	81	27	.50	NW.	.....
	June	30.010	60.8	93	28	.10	W.	.....
	July	30.035	72.3	96	44	.79	S.	.....
	August	30.027	66.5	92	34	.26	W.	.....
	September	30.052	57.3	86	27	.09	NW.	.....
	October	29.944	46.9	75	23	.00	NW.	.....
	November	29.453	33.2	69	0	.32	W.	.....
	December	29.894	23.4	53	−14	.21	NW.	.....
1877....	January	29.898	25.0	50	−14	.20	W.	.....
	February	30.007	31.6	58	13	.14	NW.	.....
	March	29.834	35.9	67	− 2	.98	W.	.....
	April	29.858	38.2	67	9	1.11	N.	.....
	May	29.824	50.8	81	27	2.24	SE.	.....
	June	29.959	59.0	87	32	1.27	S.	.....
	July	30.039	70.2	96	43	.43	S.	.....
	August	30.073	67.9	91	44	.83	S.	.....
	September	29.993	56.2	83	27	2.02	W.	.....
	October	29.973	40.0	77	3	1.99	W.	.....
	November	29.942	30.1	55	−12	.17	W.	.....
	December	29.953	28.9	64	−10	.33	W.	.....
1878....	January	29.879	25.3	49	− 9	.08	NW.	.....
	February	29.780	39.0	58	6	.13	NW.	.....

Statement showing mean barometer, &c.—Continued.

Year.	Month.	Barometer.	Thermometer.			Amount of rainfall.	Prevaling direction of wind.	Max. velocity per hour.
			Mean.	Max.	Min.			
		°	°	°	°	*Inches.*		*Miles.*
1878....	March	29.868	38.7	70	13	1.16	NW.	.....
	April	29.773	43.5	71	19	.19	NW.	.....
	May	29.907	47.9	76	28	4.46	NW.	.....
	June	30.025	58.6	86	35	1.71	NW.	.....
	July	30.049	70.2	92	44	1.43	S.	.....
	August	30.094	68.3	81	45	2.50	NW.	.....
	September	30.023	52.4	87	23	.75	NW.	.....
	October	29.976	42.4	73	— 4	.04	NW.	.....
	November	29.998	36.7	67	2	0.00	NW.	.....
	December	29.947	20.0	56	—12	0.19	NW.	.....
1879....	January	29.896	24.3	60	—15	0.32	NW.	46
	February	29.876	31.5	59	—06	0.20	NW.	50
	March	29.951	39.3	77	8	0.44	NW.	44
	April	29.925	44.3	72	22	1.66	N.	52
	May	29.944	56.3	86	30	1.30	S.	43
	June	29.961	64.1	92	32	0.07	W.	34
	July	30.050	69.9	95	42	1.04	NW.	23
	August	30.063	65.8	92	40	1.26	NW.	31
	September	30.096	58.0	87	30	0.00	W.	38
	October	30.034	46.1	80	18	0.65	N.	52
	November	29.950	35.4	67	11	0.23	W.	48
	December	29.787	25.8	57	—24	0.17	W.	50
1880....	January	29.837	30.5	63	—11	0.20	W.	62
	February	29.842	24.0	59	—10	0.09	NW.	48
	March	29.851	27.6	69	—17	0.06	NW.	44
	April	29.898	41.4	73	15	0.17	NW.	44
	May	29.905	53.8	84	28	0.44	NW.	48
	June	29.979	62.5	97	37	1.06	NW.	48
	July	30.082	66.8	93	49	1.88	S.	32
	August	30.056	64.8	94	40	2.23	S.	32
	September	30.070	56.9	84	32	1.05	NW.	32
	October	30.050	42.8	74	20	0.76	NW.	40
	November	29.954	20.2	54	—16	0.36	NW.	44
	December	29.870	27.8	60	—24	0.08	NW.	46
1881....	January	29.853	23.9	56	—12	0.36	W.	52
	February	29.861	28.8	59	—12	0.22	NW.	44
	March	29.880	34.4	63	4	0.32	NW.	46
	April	29.939	46.3	75	13	2.32	NW.	46
	May	29.990	54.3	79	32	1.14	NW.	48
	June	29.844	67.7	97	43	1.22	NW.	36
	July	29.958	69.7	105	45	1.40	S.	32
	August	29.983	68.0	95	47	1.97	S.	32
	September	30.008	53.5	86	31	1.75	NW.	40
	October	30.164	43.9	76	17	0.88	NW.	36
	November	30.229	31.6	56	9	0.29	NW.	40
	December	30.308	32.0	58	11	0.01	NW.	48
1882....	January	30.120	25.4	60	—12	0.14	NW.	41
	February	30.166	30.7	55	4	0.05	NW.	48
	March	30.135	34.6	69	3	0.06	NW.	52
	April	29.922	40.3	74	15	0.46	NW.	48
	May	29.857	45.7	77	23	2.73	S.	36
	June	29.783	59.2	89	38	1.85	NW.	32
	July	29.860	64.1	92	38	2.30	NW.	36
	August	29.890	65.0	96	43	0.23	NW.	24
	September	29.969	56.1	87	32	0.35	W.	32
	October	29.982	43.7	75	13	0.31	W.	36
	November	30.289	32.0	65	—16	0.06	NW.	38
	December	30.254	29.6	58	—15	0.10	NW.	44
1883....	January	30.134	21.0	54	—31	0.88	NW.	49
	February	30.257	18.9	55	—28	0.25	W.	32
	March	30.171	37.5	64	13	0.85	NW.	38
	April	29.884	37.1	69	17	2.76	NW.	40
	May	29.842	46.3	82	25	3.68	N.	48
	June	29.838	57.5	91	34	3.67	S.	28
	July	29.847	64.0	94	41	1.45	S.	27
	August	29.894	63.9	90	36	2.18	S.	26
	September	30.042	55.3	72.8	43.4	0.90	NW.	26
	October	30.008	39.3	51.3	30.4	1.66	NW.	48
	November	30.204	38.2	51.0	27.2	0.16	NW.	40
	December	30.268	29.6	40.5	18.4	0.80	NW.	52
1884....	January	30.233	23.6	33.8	12.8	0.76	NW.	48
	February	30.109	23.7	33.6	13.6	0.26	NW.	50
	March	30.024	30.8	41.8	21.2	1.59	NW.	56
	April	29.938	36.2	49.4	26.9	1.23	NW.	44
	May	29.919	49.6	64.7	38.6	4.83	NW.	34
	June	29.844	61.1	78.2	49.1	1.50	S.	43
	July	29.801	65.6	81.8	52.3	0.60	NW.	34

Statement showing mean barometer, &c.—Continued.

Year.	Month.	Barometer.	Thermometer.			Amount of rainfall.	Prevailing direction of wind.	Max. velocity per hour.
			Mean.	Max.	Min.			
		°	°	°	°	*Inches.*		*Miles.*
1884....	August	29.859	61.1	75.3	49.3	2.07	NW.	36
	September	29.887	56.5	72.8	42.8	1.25	NW.	45
	October	30.110	47.6	63.2	33.8	0.50	NW.	42
	November	30.297	36.2	49.2	23.8	0.18	NW.	56
	December	30.116	18.8	31.1	6.5	0.67	W.	44
1885....	January	30.166	23.6	34.2	10.7	0.16	NW.	52
	February	30.125	24.6	34.5	14.3	1.31	NW.	56
	March	30.231	33.7	44.7	23.4	0.51	NW.	46
	April	29.942	40.7	53.0	31.2	3.76	NW.	40
	May	29.858	46.7	60.5	36.2	1.33	NW.	36
	June	29.801	57.6	72.8	46.3	2.75	S.	50
	July	29.811	65.7	80.8	53.2	1.92	NW.	47
	August	29.835	62.2	76.7	50.6	2.14	NW.	39
	September	29.938	55.7	70.1	43.7	0.69	NW.	44
	October	30.099	45.7	60.0	33.6	0.28	NW.	36

The following table shows the increase of rainfall in recent years as compared with the earlier years of Wyoming's settlement:

Year.	Spring.	Summer.	Total for six months.
	Inches.	*Inches.*	*Inches.*
1871	1.76	3.88	5.64
1872	3.98	7.79	11.87
1873	3.71	4.94	8.65
1874	2.85	3.65	6.50
1875	1.93	6.88	8.81
1876	3.27	1.15	4.42
1877	4.33	2.53	6.86
1878	5.81	5.64	11.45
1879	3.40	2.37	5.77
1880	0.67	5.17	5.84
1881	3.78	4.59	8.37
1882	3.25	4.38	7.63
1883	7.27	7.30	14.57
1884	7.66	3.92	11.58
1885	7.84	4.75	12.59
Mean for fifteen years	4.10	4.60	8.70

The following table shows the mean temperature and the average amount of rainfall for a period of several years:

Month.	Mean temperature.	Rainfall.
	Degrees.	*Inches.*
January	31.03	.23
February	32.60	.77
March	36.81	1.31
April	47.60	1.97
May	56.11	3.33
June	67.34	2.99
July	74.70	1.85
August	73.78	.93
September	64.21	1.82
October	50.91	1.33
November	35.83	1.26
December	27.98	.37
Spring	46.84	3.61
Summer	71.94	5.77
Autumn	50.32	4.41
Winter	30.54	1.37
Year	49.91	20.16

AS A HEALTH RESORT.

The climate of Wyoming has already, in many instances, practically demonstrated its controlling effect upon various dreaded diseases to which the human family are subject. We now have among us citizens who came here as a last resort, with "one foot in the grave" almost, for relief from the pulmonary diseases, so common in the lower humid altitudes east of the Missouri River, and to-day they are not only restored to health and vigor, but are active and prosperous in business pursuits.

The climate of this continent is fluctuating to a greater or less degree in all sections thereof; and, in the lower humid localities, sudden and harsh changes of temperature are severe upon the physical functions of mankind, and especially in engendering the incipient stages of pulmonary diseases, such as bronchial catarrh and other kindred affections of the lung tubes. But in the higher and less humid localities, with similar variations of the temperature, these climatic conditions but rarely exist, because of the dryness of the atmosphere and other similar atmospheric influences, such as a light, pure, rarified atmosphere, free from miasmatic vapors which prevail in low humid localities; such as modified chemical and electrical properties, which heat rather than aggravate, which is demonstrated by their action upon dead animals in retarding their decay, and such as the clear, unobstructed sun rays.

It is the opinion of medical practitioners in this Territory, of acknowledged learning, of close observation, and of long and skillful practice, that these climatic conditions have their influences. Also, that the change from a low miasmatic locality to a higher one, free from those conditions, stimulates new physical activities during the process of acclimation, and thus infuses new life into invalids, or those who are breaking down under the earlier stages of disease.

But few diseases germinate in Wyoming. Among those which prevail here to any considerable extent is chronic nasal catarrh or cold in the head, which is more or less common in all dry regions, and those afflicted with it cannot expect to get ready relief from it here, though it is a manageable affliction with persons otherwise healthy. Quinsy is the most prevalent of the sore throat afflictions. This, like nasal catarrh or colds, is aggravated by the evaporation of the exudations of the mucous membranes by the dry atmosphere passing over them. It has been determined by our medical authorities that while nasal catarrh is prevalent here, it does not extend to the lungs. Indeed, lung affections, such as bronchitis, lung fever or pneumonia, and pleurisy, rarely occur. Hence persons who have any predisposition to consumption find this climate favorable for its eradication or at least a prolonged lease of life. Many instances have occurred here, in fact it is the general result, that nine-tenths of the persons who have sought this climate for benefit from lung troubles, unless they were in the last stages of consumption, have been restored. Many persons who have reached the stages of hemorrhage from the lungs—which is regarded by medical men as a dangerous degree in the progress of the insidious disease—have come to this locality and in the course of time have been restored through climatic influences. However, there are advanced stages of the wasting away of the lungs beyond which no medical treatment nor climatic influences will restore the afflicted.

Persons from low humid localities, who are predisposed to consumption, and those whose habits are sedentary, or who are dyspeptic and

broken in health, or with a hacking cough, should come to the elevated, dry, invigorating climate of this locality and gather new physical forces.

No fevers originate in this Territory except a species called "mountain fever," which prevails in autumn and early winter after very dry summers. Bilious attacks are prevalent here in the spring and summer, and why, in this dry, pure atmosphere, it is difficult to ascertain. However, they are easily controlled. Acute rheumatism and neuralgia are uncommon here, but slight attacks are frequently felt. Persons affected with a seated disease of the heart should not come to this altitude; but those suffering from general nervous debility or dyspepsia will find Wyoming an excellent climate for its cure in due course of time. Persons of a defined nervous temperament will find Central and Northern Wyoming more suitable for them than the higher altitude of the southern part of the Territory, especially during the winter months.

As a region for asthmatic people Wyoming has few equals, as many residents within its limits will attest. The worst cases of this distressing lung trouble find sure cure here. Many hundreds of people of all ages thus afflicted have come here from the low altitudes of the east and west and been restored to health in due course of time.

Wyoming certainly has very superior climatic advantages as a pleasure and health resort.

NATURAL RESOURCES.

In the natural resources of a State or Territory lie their material wealth; and the more varied these are, the greater their future possibilities.

In these natural resources Wyoming abounds, and when enterprise, capital, and skill shall have fully uncovered them for utilization, its industrial resources and wealth will bear comparison with any similar section of the continent. It has only been a brief period since its domain has been, to any great extent, intelligently explored or settled, mainly because hostile Indians were a check to this end; because the reputation the Territory has achieved as a stock-growing region has overshadowed the mining interest; and because of the huge mineral "finds" in Colorado and other surrounding localities, happening some eight or ten years ago, drew attention from this Territory.

However, Wyoming is rapidly recovering from these temporary drawbacks, and recent mineral developments are bringing it forward with encouraging prospects of a healthy and permanent "boom."

Down to the present time, geological and expert investigations have discovered that gold, silver, copper, iron, lead, kaolin, fire-clay, graphite, mica, antimony, gypsum, soda, magnesia, sulphur, granite, marble, limestone, sandstone, petroleum, coal, &c., are among Wyoming's minerals. Of these

GOLD

was first discovered here in 1867, between the base of the Rattlesnake Mountains and the Sweetwater River, and along the old emigrant trail near the South Pass. Prior to this, however, fabulous stories had been told by trappers, hunters, and others about discoveries of precious metals in this region. Soon after this discovery large numbers of fortune-seekers gathered in this locality and camps rapidly accumulated, which to-day bear the names of "Miner's Delight," "Atlantic City," "Lewiston," "South Pass City," &c., all within a radius of some 10 miles of each other, and about 125 miles north of Green River City, on the Union Pacific Railway. The lode or fissure vein mining was in the

granitic-gneissoid rocks. Their surface decomposition produced ore which has since been mined quite profitably. Some $200,000 have been produced by one of these mines alone. A crushing mill was erected at these mines. Gulch mining has been carried on to a greater or less extent, and with success, up to within a few months.

Last spring a French company, under the management of a French engineer, acquired these mines by relocation. It is now constructing a ditch for placer mining, and since May, 1885, has had from sixty to seventy-five men at work, and rich results are expected.

From this discovery others were subsequently made, some 90 miles eastward, on the Seminoe Mountain of the Sweetwater range, which exhibited similar formations and which are now being developed with fine success. The two principal peaks of the Seminoe are Young's and Bradley's, whose elevation is about 10,000 feet above the sea level. On the eastern slope of Young's Peak are a number of gold mines, which Professor Aughey, Territorial geologist, who has recently thoroughly examined them, assures me are of high grade and character. Of these mines the principal ones are Star, Hope, King, Bennett and Meager, and Deserted Treasure. The ore of all these mines is free milling gold quartz, and is more or less developed; the most work, however, is being done on the Deserted Treasure mine.

This property was in litigation for several years, and when settled it was sold to eastern parties, who last April began its development again in apparent good earnest. A cross-cut tunnel, 175 feet long, intersecting the lode at a depth of 125 feet below the surface, has been cut, and about 350 feet of "drifting" on the lode has also been done. The ore body ranges from 1 to 12 feet in thickness.

During the last summer the company constructed a California gold mill with ten drop stamps, and also added to the mill concentrating works. The outfit was completed and commenced operations October 2, 1885, and ran five weeks, when it was obliged to shut down because of the deep snow which recently fell upon the mountain and for which it was not prepared. It will start again in early spring, prepared to run the entire year. The mill has proven a success, having crushed 22 tons of ore every day, from which the output of gold was more than had been anticipated. The mill is operated by steam, the coal used therefor being found abundant and near at hand. Development work will be continued during the winter.

The Territorial geologist, who has given these mines much personal attention, informs me that the other mines named show equally as well as the Deserted Treasure did at the same stage of development.

There are many other undeveloped prospects on this mountain other than those named, which bear good indications.

Other discoveries are also made on the east and west side of the Medicine Bow range of mountains, southwest from Laramie City, near the Colorado line. The veins are similar to those of the Seminoe mines, mainly quartz and schists. The ores of the east side mines are gold, both free and in iron pyrite, lead, and copper carbonates. In one of these mines, partially developed, the vein is said to be from 5 to 25 feet wide. It has been developed to the depth of 50 feet, and shows gold from $10 to $60 per ton. But it requires large capital to develop it. Mining at the old Douglas and Centennial mines has commenced again.

The Douglas Creek mines of the west side of this range are similar to those just mentioned. Profitable work has already been done on them by a company, which demonstrates that they will pay largely with proper management. This mining district was first known as the "Last

Chance" region. The work first done was gulch mining, but the more recent work has been that of quartz mining. The mines are over 9,000 feet above the sea level and show many veins of gold-bearing quartz, which frequently appear in the outcroppings of the rocks.

In the valley of the Little Laramie River, some 30 miles west of Laramie City, the mines called the Centennial were discovered in 1876, which at first proved to be rich. The region is supposed to be a good one, but requires skill and capital to develop it.

In that portion of the Black Hills region lying in Northeastern Wyoming, which is about one-third of the entire group, more or less gold is found through the gulch-mining process, especially in Bear Lodge Mountains, Nigger Gulch, and Sand Creek. Quite considerable nuggets have been found in these localities.

The Lost Cabin mine, of which so many romantic tales have been written, is situated near the Big Horn River. It was discovered ten or twelve years ago. Recently it was prospected and an assay made, showing about 3 ounces of gold to the ton and a trace of silver.

The more recent developments of gold production are in the Silver Crown district, some 22 miles northwest of Cheyenne. While this is more especially a copper district, yet the ore of Copper King mine bears 3 ounces of gold per ton of ore, and the present indications are that this mine will increase in its gold production.

The Silver Crown district will be more fully referred to under the head of "Copper."

SILVER.

This metal is not found in Wyoming to the extent that gold is; in fact, is only found in moderate quantities, and in comparatively but few localities. In the mining localities of Medicine Bow or Snowy range of mountains it appears in connection with gold deposits; also indications have been found on the western slope of the Laramie range of mountains; on Rock Creek, west of Laramie City, and in the Wolf and Big Horn Mountains. It has also been found northwest of Cheyenne, on the eastern slope of the Laramie range. Localities of this latter region have been worked to a considerable extent. Silver has also been found north of Fort Laramie, at Rawhide Buttes, and on the Running Water farther north. In the latter region quite a number of large claims have been located, in which several prominent citizens of Cheyenne are interested. These rocks are quartz impregnated with copper, while strata below show veins of native silver, and still lower veins of silver and gold. Discoveries of silver have also been made on the Stinking Water in the northwestern part of the Territory, which may pay well when developed.

The Silver Crown district of the Laramie range, while it is a distinctively copper-bearing region, its ores carry more or less silver, as has already been shown by the development of the Copper King and King David mines.

Thus it will be seen that gold and silver are important parts of the natural resources of Wyoming, and when they receive the attention, appliances, and capital necessary to obtain them to the extent they are known to exist, they will add largely to the material wealth and industrial interest of the Territory.

COPPER.

The next most important of the finer metals found in Wyoming is copper. Only within the past five or six years has this metal been discovered and mined to any considerable extent, although its existence in various localities was known.

In a region north of Fort Laramie, adjacent to Rawhide Buttes, prospecting began some five years ago, and several leads were found which produced a rich quality of ore, and considerable work was done. A drawback to a continuous working of these mines has been a lack of skill and the requisite machinery necessary to reduce it ready for the market. This will come soon.

The Platte Cañon District, a few miles southwest from Rawhide Buttes, has been prospected for several years and deposits found to such an extent that capitalists erected smelting works on the north bank of the North Platte River, at the mouth of the cañon, and December 1, 1882, the first run was made. Up to October 1, 1883, over 1,000,000 pounds of copper bricks or bullion had been made and shipped to markets east by the Wyoming Copper Company. Everything used to operate these works was freighted by wagons 100 miles from Cheyenne, in the absence of railroad facilities. The works have not been running for the past two years, but, notwithstanding, the mines have been worked more or less ever since. The principal mine of this locality has produced over 3,000 tons of ore; besides two or three other shafts have produced well. When these mines shall again be worked with the necessary skill, capital, and transportation advantages, large results are confidently expected.

The Medicine Bow Mountain range region has also shown copper deposits in several localities, near the source of Crow Creek and Grand Encampment Creek in the upper Platte Valley and some 40 miles south of Fort Steele. The opening of a claim in this region by a tunnel exposed a vein of copper ore some 2 feet thick. Other claims in the same locality have given evidence of leads of ore. The copper claims near the head of Grand Encampment were patented by an Omaha company several years ago, and assays have shown nearly 25 per cent. copper and a trace of silver.

Farther west some 70 miles in the southeast corner of Sweetwater County are found mines near Bagg's Hole which have produced good specimens of copper ore. So, also, do localities on the southeastern slope of Wind River Mountain range, near Inya Kara, in Crook County, and at recently-discovered localities in Uinta County, show the presence of copper awaiting the skill, muscle, and capital of the miner to secure it.

The Silver Crown mining district is now grandly at the front and is attracting much attention. It lies some 22 miles northwest from Cheyenne, at the eastern base and slope of the Laramie Mountain range.

It had been known for years that copper existed in this range of mountains, which induced a test mine, the "Metcalf," to be opened, at which was established a rude smelter. The veins of copper were found to be from 2 to 3 feet thick with a general dip from the southwest to the northeastward, and in some places they are almost vertical. They lie almost uniformly on shaly rocks.

After the opening of the Metcalf copper mine, several assays of the ore were made as follows:

From one vein the ore showed 30 per cent. of copper, $10.36 per ton of silver, and $10.33 per ton of gold. Another assay, made at the United States mint at Denver, showed the ore to contain 46 per cent. of copper and $20.25 worth of silver per ton of ore. And still another assay, made by the Omaha Smelting and Refining Works, gave the following result:

We find that the ore left with us contains 1.65 ounces of silver per ton, a trace of gold, and 40 per cent. of copper. A selected piece of this ore yielded 57.40 of copper.

There are the "King David," "Metcalf," "Copper King," and the "Fairview." Of these the King David is now the best developed. The ore is mainly copper glance, with copper pyrites, barmite, and some oxides. This ore also carries some silver as already noted.

This district is remarkable for the large number of veins that can be traced to the surface. It is the opinion of mining experts that these mines, when fairly developed, will show a locality extremely rich in this metal.

The King David is now being worked, and a shaft already extends 180 feet deep, with various levels extending from it in four directions. The ore body is some 300 feet wide, in which the copper occurs in the form of suboxide, copper pyrites, &c. From the surface to the present bottom of the shaft of the Copper King lode the ore increases in percentage, and a recent "pay streak" ran as high as 14 per cent. of copper and 3 ounces of gold per ton. Much interest is being manifested concerning the output of the Silver Crown mining district.

In addition to the copper localities thus defined, prospecting in various other sections of the Territory has been carried on with varied results.

LEAD.

In the Silver Crown mining district lead is found to a considerable extent in the forms of galena, selenide, wulfenite, and carbonate of lead. Wide formations of the selenide variety of lead are found with uranium. In other near localities, lead is found in the form of carbonates and selenides.

During the past season, the Lenox mine has been opened in this district, and is found to be a lead property, the mineral being in the form of carbonate and galena. It is now being worked, the ore and thickness of the vein increasing as it progresses.

On the range west of the Seminoe Mountain are deposits of silver-bearing carbonates and sulphates of lead. The present season's work commenced to open them up.

The foregoing are all the localities thus far made known in which lead is found.

TIN.

This rare and valuable mineral product was, some two years ago, found to exist in the northeastern part of the Territory, in portions of the Black Hills, extending into Wyoming. While on the Wyoming side the mines have not yet been developed beyond the extent to determine their character and scope, those on the Dakota side are now being opened, and works at Rapid City are being constructed for the reduction of the ore.

These are the only tin mines in the country, so far as known, hence will become valuable additions to the mineral resources of this Territory.

In assaying this ore, small quantities of mercury, cobalt, paladium, and nickel have been found.

IRON.

This metal, though of the baser species, is doubtless of more importance in the economic uses to which it is so largely applied, in developing the civilization of the nations, than are all the precious species. Hence its supply in the interest of national progress is important, and those regions where nature has deposited it are fortunate, as its production adds employment and wealth to them.

The deposits of this valuable metal in Wyoming are extensive.

Quoting from the annual report of the Territorial geologist, Professor Aughey, just made to this office, he says:

> These conditions—an abundance of the best ore, easily accessible, and fuel and fluxes also close at hand, are present at the southwestern base of Seminoe Mountain to a degree rarely found elsewhere on the globe. Only one thing is lacking, namely, transportation facilities. * * * Should the railroad projected down the North Platte be built, it would run so close to these iron-ore bodies that transportation for them could easily be provided.

The same authority informs me that his investigations determine that three kinds of iron ores are developed in Wyoming, the hematite, iron carbonate, and magnetic iron, the two former most prominent.

The hematite ore is found at the base of Bradley's Peak on the Seminoe Mountain, 9 miles west of the Platte River in its course from the south to the north and 26 miles northward from Rawlins. An analysis shows this ore to be of superior quality, and a scientific measurement of its area also shows it to be practically inexhaustible. The spathic or iron carbonate ore is found in moderate quantities in the Big Horn Basin, it appearing in sheets, and also found in the basin on the east side of the South Powder River.

The quality of the spathic ore is superior and valuable, as containing important elements required in the manufacture of Bessemer steel. Its color is dark brown, blackish, and black. In the Powder River localities the beds are some 4 feet thick. These ores are also valuable for making spiegeleisen so largely used in the manufacture of Bessemer steel, which is so rapidly taking the place of iron for railroad tracks.

Iron is also found on Iron Mountain, of the eastern slope of the Laramie range, some 40 miles northwest from Cheyenne, but an analysis of this ore shows that the large percentage of titanic acid makes it difficult to reduce.

The Territorial geologist reports that all the essential requirements exist at the Seminoe mines—such as inexhaustible beds of the best quality of hemitic ore, a vast field of good coal for fuel and cokeing, plenty of lime for fluxing purposes—for the cheap and profitable manufacture of iron and Bessemer steel as well. A projected railroad now making toward this point will add to the facilities, thus making it more desirable for capitalists to seek this field.

MINERAL PAINT.

Large bodies of red oxide of iron exist near Rawlins, Carbon County, in extensive quantity, which, when reduced to powder, makes a durable red paint with great preservative properties. Two mills have been employed in crushing and preparing the oxide powder for use and shipment, worked by the Rawlins Metallic Paint Company. They have already expended some $25,000 in opening the mines and erecting paint works. The paint made from this powder is used by the Union Pacific Railway Company for painting their buildings, poles, &c., along their entire line, besides being used extensively for private buildings in the Territory. The superintendent of the car-building department of the Union Pacific says:

> We use it exclusively for painting box and flat cars, iron and tin roofs, and buildings along the road, and have found it a valuable preservative of wood. We are satisfied that it will cover more surface, pound for pound, last longer, and retain its color better than any paint before the public.
>
> This red oxide also makes an excellent flux for the reduction of silver ores. Many thousand tons have been shipped for this purpose since the opening of the mines.

KAOLIN.

Kaolin is a species of fire-clay formed from decomposed feldspar, which, compounded with a fusible earthy matter, was used for making porcelain or Chinaware, first in China, but later in this and other countries. It is found in quite superior qualities along the Laramie and Sweetwater ranges.

FIRE-CLAY.

Fire clay, a mineral composition of silicate of alumina, used for making fire-brick, because of its resistance against the action of heat, is an important material for many industrial uses, such as assay retorts, fire-grates, &c., and is abundant in Wyoming along the Laramie and Wind River Valleys and various other points throughout the Territory.

GRAPHITE.

Carbon, in one of its conditions, known for its soft, metallic luster, and commonly known as black lead, is found in the disturbed sections of the rocks, and appears in veins lying at various angles. It exists in the Laramie range, where several mines have been located. The material as it comes from the mines is from 70 to 80 per cent. pure, and presents, when pulverized, a bright luster. These deposits are regarded as valuable, and when utilized will be profitable.

MICA.

This useful mineral is found plentifully in Wyoming. It easily cleaves into very thin, transparent, and elastic plates, and is used for lanterns, in stove doors, &c. Deposits are found in the southern part of the Territory and on the eastern slope of the Upper Laramie range. The surface of the blocks found will measure 8 or 10 inches square, and when divided into thinnest dimensions it is remarkably transparent.

SODA.

Among all the minerals of Wyoming none show such generous and wonderful deposits as those of soda. It finds its lodgment in open basins, once ponds of water, into which salts of soda found their way and through chemical action solidified into masses some 10 to 15 feet deep.

There is a group of these deposits within a moderate radius of each other, located some 12 miles southwest from Laramie City, which belong to the Union Pacific Railway Company, the largest covering an area of 56 acres. They are the sulphate of soda deposits, and have a depth of solid soda from 10 to 15 feet, and the entire area of all of them is estimated to contain some 50,000,000 cubic feet of pure, solid, crystallized sulphate of soda.

Works were erected at Laramie City some two years ago for the preparation of the soda for use, and is developing into one of the great industries of the Territory.

There are other lakes of bicarbonate of soda located along the eastern base of the Rattlesnake Mountains, in the Sweetwater River Valley. Four of these, covering an area of 440 acres, are in one group near Independence Rock, and the other one is some 20 miles westward, and covers an area of 220 acres, but is not yet developed because of the lack of transportation facilities. Some four years ago the owners, Messrs. Wallace & Morgan, had their soda tested in glass works at Pittsburgh, Pa., and found that glass could be made with the soda in its crude state.

Other soda deposits have been found in the Territory, among which are some valuable ponds in the region of Old Fort Casper, in the Platte Valley.

These soda deposits of Wyoming are doubtless the result of evaporation.

I am told that the soda consumption of the United States amounts to about 250,000,000 pounds a year, all of which has been imported at a cost of about $48 per ton at landing, besides the duty of about $50.40 per ton. A well informed and practical economist says of this commodity, that it is imported at an annual expenditure of $7,000,000, whereas this could be saved by the preparation and consumption of our own product, which is pure and abundant. The time is coming when this will be done.

The extension of the Sioux City and Pacific Railway into and through Central Wyoming, which seems to be assured, will open to market the valuable soda deposits of the Sweetwater Valley, and as there is an abundance of coal and the best of sand in the immediate vicinity of these deposits, the manufacture of glass will be largely engaged in.

MAGNESIA.

This mineral is found along the line of the Union Pacific Railway, near Rock Springs, of a very pure character. Its deposits are several inches thick and cover an area of a 100 acres or more, so far as already discovered.

SULPHUR.

On the Bear River, in the southwestern part of the Territory, and in some other localities, this mineral is found, is excellent in quality, and can easily be utilized for economic purposes.

GYPSUM.

This important mineral production exists extensively in various localities of the Territory. Deposits are found in the northwestern part of Crook County, on the eastern slopes of the Big Horn range, in the Wind River and Sweetwater Valleys, and in the southern part of Uinta County, near Red Buttes, a railway station in Albany County on the Laramie Plains, and along the northern slope of the Laramie range, between Forts Fetterman and Laramie. Many points in this area, thus covered by these valuable deposits, can be reached by railroad, and gypsum is already quarried, and it is only a matter of time when it will be more generally utilized for economic purposes.

ROCK SPECIES.

Nature has been lavish with Wyoming in its supply of the various rock species, so essential as material for construction purposes and other economic uses. They are found generally distributed over the Territory in excellent qualities, and add largely to its material wealth.

The most enduring and "eternal" of the rock species of the Territory is the granite, of which there are several varieties, of nearly all colors and intermediate shades, including the gray, brown, red, &c. Of these varieties some are coarse-grained and more readily yield to the elements in disintegration, while others are fine grained and tenacious of texture, and are susceptible of high polish for monuments, pillars, &c. The granite rock appears more or less in all of the high peaks and mountain

ranges of the Territory. The celebrated Oakes Ames monument at Sherman, the highest elevation on the line of the Union Pacific road—8,269 feet above the sea level—is made of gray granite found at that point. Specimens of Wyoming granite from various localities have been sent to geologists in different parts of the East, all of whom are in accord as to its character for utility, durability, and beauty.

Wyoming marble is a rock species of beauty. It is found on the Laramie Plains, east of Cooper Lake railroad station, in ledges nearly 100 feet wide and some 2 miles in length. It is crystalline in character, very fine-grained, and yields to a high and beautiful polish. It is also found to some extent in other localities. However, no quarries are worked yet, except those at Cooper Lake. When this marble shall be utilized, Wyoming can furnish its own marble monuments, furniture, and mantel slabs. Specimens of our marble, which resembles the Italian variety, have been sent to artisans eastward, who have tested its texture, durability, and utility for the higher economic uses and pronounce it superior.

Limestone is another important rock species of the Territory, and is found in great quantities in all sections thereof. It comprehends the carbonate, which yields to heat and slacks into a powdered condition of lime used for plastering, glass, flux, and for various other purposes, while the white and red of Jurassic formation is also extensively found, and is of a tenacious, hard, metallic quality, susceptible of a fine, marble-like polish, and is extensively used for building and other purposes.

Sandstone is also one of the leading species of our rock formations, and appears in all directions and forms from mountain ledges to the fantastic buttes, monuments, &c. The variety includes the white, gray, and red and is largely used for building purposes.

Brick clay also exists in almost all parts of the Territory. Brick-making is carried on in Cheyenne, Laramie, and other points quite extensively, producing a good quality.

COAL.

Wyoming is remarkably prolific in its coal measures. They extend in almost every direction, and well nigh form the most important of her natural resources. Were it not for our coal as an artificial heat generator, its other concomitants, gold, silver, copper, iron, &c., could not be utilized within their own fields; hence, would not benefit us so materially. Were it not for coal we would have to resort to the old methods of water and the horse for motive power in mining and other industrial interests. Without coal we would have no blast furnaces, factories, and mills. In fact, without our coal fields but few of our industrial interests would avail us much, when we consider that our forests are scattered and limited.

It is estimated by scientific experts who have surveyed the Territory quite extensively that the distribution of coal comprehends fully one-fifth of its area. Thus nature has been generous in its supply of this mineral for fuel purposes, which is so important in the utilization of the various other minerals which are interspersed with it throughout our Territorial domain.

Traversing the southern part of the Territory, south of the Platte and Sweetwater Rivers, from east to west, vast measures of an excellent quality of bituminous coal are found at Cooper's Lake and near Laramie City, in Albany County; Carbon, Carbon County; Rock Springs, Sweetwater County; Alma, Uinta County; and Twin Creek on the Oregon

Short Line. Among these are the mines belonging to and operated by the Union Pacific Railway Company. The first of these mines was discovered by E. C. McShane, followed by the discovery of others within the land-grant limits of the Union Pacific road. The mines of this company in this Territory in 1884, as shown by official report, produced 882,608 tons of coal, at an average cost at the mines of $1.31½ per ton. Of this total of tons, 347,341 tons were sold. The average price of the coal sold at the mines was $1.46⅓ per ton.

Besides these mines along the Union Pacific road, there are extensive mines just south of the Seminoe Mountains, in Carbon County—some eleven leads, ranging from 1 to 15 feet in thickness. The coal is of an excellent quality, as shown by the following analyses kindly furnished by the Territorial geologist:

	Per cent.
Fixed carbon	52.0
Volatile matter	41.0
Water	4.0
Ash	2.5
Loss	.5
	100.0

Another bed just west of the above shows thus:

	Per cent.
Fixed carbon	51.06
Volatile matter	37.08
Water	5.72
Ash	4.90
Loss	1.24
	100.00

One of the largest areas of coal land commences east of the Wind River Mountains and extends in an unbroken line eastward to the Platte River near its great bend, a distance of about 120 miles. Along this belt, says Professor Aughey, there are from three to eleven coal beds varying in thickness from 2 to 20 feet. The following are analyses of the coal of this belt, the first from near where the Beaver joins the Wind River, the second a few miles farther east, and the third from a bed north of the Big Horn Mountains:

	First.	Second.	Third.
	Per cent.	*Per cent.*	*Per cent.*
Fixed carbon	53.07	48.99	58.08
Volatile constituents	36.08	36.49	35.01
Water	4.01	5.98	4.02
Ash	5.00	7.18	2.06
Loss	1.84	1.36	.83
	100.00	100.00	100.00

Passing to the Sweetwater and North Platte Rivers, the coal measures are equally extensive. The region along the North Platte River, from Old Fort Casper to Fort Fetterman, and for a great distance east of there, is nearly all underlaid with coal, most of which has been analyzed and found to be of a superior quality.

Coal is also found in the Green, Snake, Big Horn, and Powder River Valleys; and while the constituent properties of all these measures and veins have not yet been determined, yet veins have been opened and coal used for local purposes throughout quite an extent of these various localities, and found to be good for practical uses.

Beds of coal are also found in Johnson and Crook Counties, extending to the Black Hills region; and passing southward, it is found east of Fort Fetterman and at other points in the Platte Valley.

A former geologist of this Territory, in a report, says:

It has been proven during the last ten years that the coal generally in Wyoming is good; and for locomotives, the blacksmith forge, roasting furnaces, and household uses, it will answer all the requirements that may be made upon it. While no coking or good gas coals have been as yet found along the Union Pacific Railroad, yet it is not unlikely that careful examination of the regions along the Platte and Sweetwater may reveal such deposits. In Colorado, where coal is geologically the same as in this Territory, not only excellent coke and gas coals, but even anthracites, have been discovered in favored localities.

More recent explorations have discovered that the latter qualities of coal exist in Central and Northern Wyoming, but how extensive is not yet known.

The retail prices paid for coal by consumers vary from $1.50 to $6.50, according to the amount purchased, locality where delivered, and quality of the coal purchased.

In 1882 the number of miners employed by the Union Pacific Railway Company was 1,109, distributed through its several mines; and the number of tons of coal mined that year was 917,280.

Dr. Hayden, United States geologist, in his survey of Wyoming in 1870, speaks generally of its coal measures as follows:

The coal of the Rocky Mountains is distributed along their flanks as several leaves in the great book of folded strata, and invariably in the transition beds or between the Tertiary and Cretaceous. Nowhere in the world is there such a vast development of the recent coal measures, and in few places is their existence more necessary to the advancement and improvement of the region in which they occur. They lie regularly and in the main quite horizontally, though close to the mountain the beds are naturally tilted. The coals are called variously, lignites, brown, semi-bituminous, and bituminous, though from their chemical constitution they ally themselves much more nearly with the latter. They are distinguished by their cleavage-planes, which latter are nearly perpendicular to the planes of lamination and to each other, and give to this coal (which is usually friable) a stair-form structure almost resembling the crystallization of some clusters of iron pyrites. It is hardly worth while to say that these coals differ in different localities as to general structure and chemical composition.

PETROLEUM.

Petroleum, an inflammable, bituminous liquid, exists in Wyoming in vast quantities, as has been demonstrated by discoveries for several years past. For a long time after the first discoveries the general public was slow to dispel its doubt or comprehend the extent of its existence, but now it yields to the force of practical demonstrations.

From the annual report of the Territorial geologist, recently submitted, I quote as follows in relation to petroleum:

I have during the last few years resurveyed a large part of the oil territory of Wyoming, and here submit the conclusions arrived at and the data for them.

Indications of the existence of petroleum have been found over a much larger territory than was originally suspected. Even the marked proofs of its presence are found over a comparatively large area, large when compared with that of Pennsylvania where the entire productive area, according to late official reports, covered only 3[illegible] square miles. Although the Pennsylvania oil fields have since been found to be more extended than at the date of the report referred to, it does not in this respect prospectively compare with that of Wyoming.

The most extensive oil basins of the Territory lie east of the Wind River and north of the Rattlesnake range of mountains. This belt is about 130 miles eastward, and at various intervals the oil is found to come to the surface, and also much of the rock masses are found to be saturated with it. The survey shows that while this vast oil belt extends east and west its most noticeable basins are northwest and southeastward, somewhat in the order and range of Fort Washakie, Lander, Shoshone, Beaver Creek, Big Horn, Rattlesnake, Seminoe, and Laramie ranges, and indications appear to show that this belt extends to the coal measures east of Fort Fetterman.

North of this belt, along the Powder River and its tributaries, in Johnson and Crook Counties, other oil indications appear, although their extent and character have not yet been thoroughly enough explored to define their limits. However, the oil appears at the surface, near the mouth of Willow Creek, on Salt Creek, and at other points along this water-course. It also appears at the surface at points along the Belle Fourche and tributaries farther eastward.

Passing from the northern and central oil belts of the Territory to its southwestern corner, oil indications appear near Aspen, some 10 or 15 miles southeast from Evanston, on the Union Pacific Railway, and near Bridger, farther northeastward. These indications are in the form of saturated rocks, and oil escapes from the surface. However, this region has not been sufficiently surveyed to ascertain its extent and character.

As the prevailing scientific theory indicates that petroleum is the product of coal, or is at least found within its measures, it must follow that the oil belt which appears near Aspen must extend eastward as far as the Laramie range, or as far as the coal measures of Southern Wyoming extend. The greatest oil region of this Territory, thus far discovered, is its central belt.

The quantity of oil stored in the natural reservoirs of Wyoming is incalculable, and the amount already known to be available—awaiting the necessary appliances to utilize it—is also very great. Compared with the coal fields of Pennsylvania and elsewhere eastward, Wyoming, in extent of known oil territory, and thickness and area of oil-producing surfaces, excels them all, as shown by the latest scientific and practical investigations and tests.

The chemical tests of Wyoming oils show that they are both illuminating and lubricating in character, the latter being the most valuable, and is not, to any considerable extent, found in the Pennsylvania oil fields. The lubricating qualities of oil found in this Territory have been tested by the ablest chemists of this country and Europe, and by both pronounced the best lubricants yet found in any country. Mr. Taylor, the chemist of the celebrated Standard Oil Company at Cleveland, Ohio, in reply to questions submitted to him by Professor Aughey, geologist of Wyoming, concerning certain oils of this Territory, specially says:

> In answer to your inquiries, I will say that the Beaver oil brought to 28 gravity, Baume, with the Seminole oil, would make a splendid axle oil; but unless the Beaver develops in very large quantity, I would not advise you to use it as basis for axle oil, but to use the Rattlesnake oil instead. The Beaver is the best naturul oil for cylinder stock that I ever saw. It has a margin of 10 or 12 degrees of gravity ever the best cylinder stock made in the East. By filtration the gravity becomes lighter, but I am of the opinion that the lightest colored filtered Beaver would be heavier than the heaviest unfiltered Eastern oil.

Probably there is no scientific expert in this country whose practical experience and thorough knowledge concerning oils is superior to that

of Mr. Taylor, long thus connected with the greatest petroleum oil company on the globe. It certainly ought to be conclusive.

But here is other high testimony which fully sustains Mr. Taylor. Messrs. Wyner & Harland, public analysts of London, England, to whom was submitted specimens of the Beaver and the Semimole Basin oils, made an analysis of them as to their lubricating qualities, as follows:

Specific gravity, .966.	
Volatile below 650° F.:	
Lubricating oil, specific gravity, .842 to .847; flashing at 110° F	19.00
Volatile above 650° F., to a red heat:	
Lubricating oil, specific gravity, .926 to .935; flashing at 314° F	45.00
Lubricating oil, specific gravity, .957; flashing at 324° F	12.50
Coke	14.50
Ash	a trace.
Lost by volatilization and decomposition	9.00
	100.00

These oils were mixed and tested for lubricating power. The mixture showed Specific gravity, 919; flashing point, 115° F. Submitted to a cold test considerably below zero (centigrade), showed no signs of solidification. * * * When properly treated by distillation, the products obtained would form lubricating oils equal if not superior to the best vegetable or animal lubricants.

Among the other practical tests of the flow of oil in this Territory was that of Dr. Graff and others, of Omaha, who established a boring plant in the Shoshone Basin in 1884, and at the depth of 350 feet they struck a flow of 80 barrels of oil per day. This illustrates other basins of this great central belt of Wyoming.

The properties of the oil of this basin, as shown by the analysis of the Territorial geologist, are as follows:

Naptha	.63
Kerosene	47.00
Lubricating oil, neutral and light colored	32.00
Coke	12.00

In its crude state as it flows from the springs or surface it has a gravity of 20° in the Baume scale; its flash test is 294°, fire test 322°, and cold test 16° below zero. It will be observed from the above that it can be utilized either for kerosene or for lubricating oil, or for both.

By a method of practical distillation, practiced by Messrs. Wyner & Harland, public analysts of London, England, they obtain the following result:

Kerosene, gravity, .807; flashing point, 110° F	17.00
Lubricating oil, .810 to .824	21.00
Lubricating oil, .840 to .844	20.00
Lubricating oil, .906	27.00
Coke	14.00
	99.00

The above result [say Wyner & Harland] prove this to be an exceedingly valuable oil for the production of kerosene, and a superior lubricating oil.

This oil was for some time, says the geologist, used for lubricating the car-wheels by the Union Pacific Railway Company, and proved satisfactory.

The same English analysts certify, in an analysis of the Rattlesnake Basin oil, thus:

Specific gravity, .662.	
Submitted to practical distillation, it gave kerosene	none.
Volatile, 600° F:	
Lubricating oil, specific gravity, .854 to .860; flashing point, 150° F	29.80

Volatile, 650° F., red heat:	
Lubricating oil, specific gravity, .933; flashing point, 570° F	7.40
Lubricating oil, specific gravity, .950; flashing point, 306° F	23.00
Coke	30.00
Loss in distillation, decomposition, &c	9.80
	100.00

A portion of the oils mixed together and tested for lubricating have, specific gravity, .900; flashing point, 100° F.

This oil is valuable on account of the hydro-carbon, which can be obtained from it by distillation, by far the most important being the heavy lubricating oil of specific gravity of .950. This oil distills only at a very high temperature, considerably above the range of a mercurial thermometer, and this, taken in conjunction with the high specific gravity, should render it an exceedingly valuable lubricant for heavy machinery. It is not altered and shows no signs of solidifying when submitted to many degrees below zero (centigrade).

WYNER & HARLAND.

Thus it will be observed that Wyoming is soon destined to become the great oil field of the world, in variety, quality, and quantity. The test thus applied to the Shoshone, Beaver, and Rattlesnake Basins will apply to a great extent to the other basins of this great central belt, except to their lubricating qualities, they being more of an illuminating character.

Movements are already on foot, in view of the vast known oil resources of Wyoming, backed by ample capital, to establish pipe lines and rectifying or refining works at several points.

Professor Aughey, as Territorial geologist, has made, as shown by his annual report, some five hundred and fifty assays of Wyoming metals the past year from the various mineral districts of the Territory, and has examined over one hundred mining prospects during the same period.

MINERAL WATERS.

The variety, quantity, and quality of the mineral waters of the Territory is most remarkable. The Territorial geologist says:

Wyoming is pre-eminent for her mineral springs. If we take into our estimate the Yellowstone Park, it surpasses the rest of the world in the number and the magnificence of her waters. Even after subtracting the National Park, this Territory leads all the States in this source of interest and wealth. The mineral springs range from extremely hot to extremely cold, and from simple sulphur and iron springs, containing these ingredients, to those containing these and all the alkaline earths. Even genuine mud springs exist in various parts of the Territory. The Shoshone Basin is the most noted locality for mud springs. At Death Lake there are at least four hundred of them. They extend from 50 feet above the lake basin down to the water's edge. They have formed mounds from a few inches to 15 feet in height, and contain circular openings in the top, filled with muddy water in part and in part with mud. This mud is fine silt and gelatinous earth. In some the mud and water remain mingled together as if stirred by human agency. In some instances the mud boils over the side of the bowl and flows for a short distance. Bubbles of gas are constantly escaping, and it is the commotion caused by its presence that keeps the mud in motion. Geyser-like eruptions are readily produced by firing rifle balls vertically down into the openings. Mud then flies from 6 to 15 feet into the air.

Hot springs.—A famous hot spring is located 2 miles west of Fort Washakie, on the Shoshone Reservation. It is of oval shape and 320 feet long and 250 feet broad. Its average temperature is 149° F. The minerals held in solution are medicinal, and many white people go there, as the Indians did before them, for treatment.

Another large hot spring occurs south of Sheep Mountain, in Beaver Cañon. It contains sulphur in solution and other ingredients. The temperature of the water is 90° F. Near by are cold mineral springs, which contain in solution soda, sulphur, iron compounds, sulphureted hydrogen gases, and carbonic acid. Here are all the varieties of hot and mineral waters necessary for a great health resort.

One of the sulphur springs on the Big Horn River has a temperature of 94°.

On the Wind River, northeast of Union Pass, there is a hot spring with a temperature of 97° F.

The temperature of the hot spring on Snake River, below the mouth of Hoback, is 117° F.

A spring with a temperature of 108° is located 10 miles below Fort Laramie. There are numerous hot springs on the Sweetwater, but their temperature has not been ascertained.

A large hot spring exists at the head of West Horse Creek, whose temperature is 104° F.

A spring with a temperature of 98° F. exists on the east end of Seminole Mountain in the Platte Cañon.

At the base of the Medicine Bow Mountains, in the valley of the Platte, is an extensive group of hot and mineral springs, which have been extensively improved and are becoming annually more and more a place of resort for invalids. The waters contain sulphur, alkaline salts, and some, in addition, the salts of iron.

Cold mineral springs.—Some of these have already been referred to, and their number is legion. The large number of soda lakes is an illustration of their character. They are discussed in another connection and are here passed by.

Near Rawlins are mineral springs that come out from a stratum of blue limestone, and have an abundant flow.

At Evanston are a series of mineral springs of a similar character.

North of the Rattlesnake Mountains, along and at the source of the streams that form the headwaters of the South Powder, are a large number of sulphur springs, of which I have visited and examined at least twelve. They contain sulphur in solution and also sulphureted hydrogen gas. Some of them also contain salts of iron. On the Poison Spider, from Garfield Mountain to its mouth, are a large number of sulphur springs.

Along Salt Creek occur a large number of salt springs, which also contain sulphate of soda (Glauber salts) in solution.

Several pure salt springs also occur on Salt Creek, which flows into the South Powder above the mouth of Willow Creek.

Mineral springs—sulphur, soda, and iron—occur more or less abundantly in all the mountain ranges, such as the Laramie, Big Horn, Shoshone, Teton, Wind River, Bear River, Medicine Bow, and Sierra Madre ranges. Their very abundance causes them to be little observed. A volume would be required to enumerate them, give their different characters, and recount their merits and value. A large part of the mountain ranges yet partake slightly of the characteristics of the Yellowstone Park, namely, prodigious chemical reactions going on beneath the surface of the earth. These reactions make themselves apparent in the hot and mineral springs that abound.

MILITARY POSTS IN WYOMING.

There are in the Territory the following forts, depots, and encampments where United States troops are stationed:

Fort D. A. Russell, near Cheyenne, sufficiently large for a full regiment.

Cheyenne Depot, near Cheyenne, the quartermaster's department, with one company of troops.

Fort Laramie, on the Laramie and North Platte Rivers, 95 miles north of Cheyenne; a large, complete fort, and the headquarters of a regiment.

Fort McKinney, on Clear Creek, at the base of the Big Horn Mountains, near the center of Johnson County and two miles from Buffalo, its county seat. This is a large post with regimental headquarters.

Fort Steele is on the North Platte River, in Carbon County, 20 miles east of Rawlins, the county seat, and has four or more companies.

Fort Washakie is on Wind River, near the center of Fremont County, a short distance from Lander, the county seat, and has three or more companies.

Fort Bridger is on Black's Fork of Green River, some 10 miles south of Carter Station, on the Union Pacific Railway, in Uinta County, and usually has about five companies.

At Rock Springs, near the coal mines, there is a post with two companies.

At Evanston, near the Almy coal mines, there is a post with one company.

Forts Sanders and Fetterman have been abandoned as military posts. There are a number of Government military reservations for wood, hay, &c., not mentioned in the foregoing.

TERRITORIAL ORGANIZATION.

On the 25th of July, 1868, Congress, by enactment, defined the Territory of Wyoming. It was taken from the Territory of Dakota, except a minor part from Idaho and Utah. The boundaries are fully defined under the head of "Geographical Position."

In April, 1869, the first Territorial officers were appointed, and on the 10th day of May following the political machinery of Wyoming Territory was placed in operation.

The new Territorial organization found the counties of Laramie, Albany, Carbon, and Carter already organized under the Territorial jurisdiction of Dakota, the latter by legislative enactment, approved December 27, 1867, and the three former on dates some time prior to the last named.

On the 3d day of August, 1869, the first Governor of the Territory issued his proclamation calling an election to be held on Thursday, September 2, 1869, for the selection of a Delegate to Congress and for members of the first Territorial legislature; he also ordered that such legislature should be held in Cheyenne, and convene on Tuesday, October 12 following, which events duly occurred.

At this first session of the legislature an act was passed, approved December 10, 1869, fixing the time of the general election of the Territory on the first Tuesday of September in each year; providing, however, that Delegate to Congress and county officers should be elected in 1870 and in each even-numbered year thereafter, and members of the legislature the following year (1871) and in each odd-numbered year thereafter.

A subsequent legislature passed an act, approved December 11, 1875, changing the time of holding the general election of the Territory from September each year to the first Tuesday after the first Monday in November, 1876, and every two years thereafter, for the election of Delegate to Congress and county officers. The legislature of 1879 enacted a substitute for all prior election laws, which exists to day, providing for general biennial elections to be held each even-numbered year, as now, at which Delegate to Congress, all county officers, and members of the legislature shall be chosen. This law also changed the time of the meeting of the legislature, from November, in odd-numbered years, to the second Tuesday of January in the following even-numbered years after such election.

The gentlemen first appointed to fill the positions of trust under the newly organized Territory were:

Governor.—J. A. Campbell.
Secretary.—Edward M. Lee.
Marshal.—Church Howe.
Chief justice.—John M. Howe.
United States attorney.—J. M. Carey.
Associate justices.—J. W. Kingman and W. S. Jones.
Surveyor-general.—C. D. Ruger.
Receiver public land office.—Frank Wolcott.

The following is a list of the present officers of Wyoming Territory:

Delegate to Congress.—Joseph M. Carey.
Governor.—Francis E. Warren.
Secretary.—E. S. N. Morgan.
Chief Justice.—John W. Lacey.

Associate justices.—Jacob B. Blair and Samuel C. Parks.
Clerk of supreme court.—J. W. Bruner.
United States attorney.—A. C. Campbell.
Surveyor-general.—J. W. Meldrum.
Registers of land office.—Edgar S. Wilson, Cheyenne; Charles H. Priest, Evanston.
Receiver of public moneys.—Walter S. Hurlbut, Cheyenne; William T. Shaffer, Evanston.
United States marshal.—T. J. Carr.
Treasurer.—William P. Gannett.
Auditor.—Perry L. Smith.
Librarian Territorial library.—J. Slaughter.
Superintendent of public instruction.—J. Slaughter.
Insurance commissioner.—J. D. Freeborn.
Territorial geologist.—Samuel Aughey.
Territorial veterinarian.—J. D. Hopkins.
Territorial stenographer.—Robert C. Morris.
Penitentiary commissioners.—Luke Murrin, Frank M. Foote, James M. Tisdel.
Fish commissioner.—Otto Gramm.
Collector of internal revenue.—J. S. Wolfe.

CIVIC DIVISIONS.

When Wyoming Territory was organized it found four county organizations within its limits—Laramie, Albany, Carbon, and Carter—which were created under the Territorial jurisdiction of Dakota.

Referring to the civic divisions of the Territory, the judicial districts should be noted; of these, there were three. The counties of Laramie and Crook constitute the first district, the counties of Albany and Johnson constitute the second district, and the counties of Carbon, Sweetwater, Uinta, and Fremont constitute the third district. To each of these judicial districts is assigned a justice of the supreme court of the Territory, of whom there are three, who hold two terms of the district court in each county every year, except in those of Johnson, Fremont, and probably in Crook (recently organized), where one term shall be held in each year.

The three judges of the Territory constitute the supreme court, of which one term is held at Cheyenne, the capital, on the first Monday in January in each year.

THE COUNTIES.

There are eight organized counties in the Territory defined and designated in their creation, as follows:

LARAMIE COUNTY.

As before noted, Laramie County was first defined and organized under the jurisdiction of Dakota Territory, with B. F. Ellinger, P. W. McDonald, and S. M. Preshaw, as county commissioners, and William Morris as county clerk. The present officers of Laramie County are: County commissioners, George W. Hoyt, H. B. Kelley, and I. C. Whipple; county clerk, J. K. Jeffrey; probate judge and county treasurer, Isaac Bergman; sheriff, N. N. Craig; assessor, W. W. Jeffrey; coroner, H. W. Moore; superintendent of schools, Dr. W. A. Wyman; county and prosecuting attorney, E. W. Mann; surveyor, H. A. Roy; with justices of the peace, constables, and other necessary precinct officers.

The first Territorial legislature of Wyoming recognized its existence, designated Cheyenne as its county seat, and undertook "to provide county officers" for it; but the executive would not recognize such action and made his own appointments therefor, the appointees of the governor holding office until a regular election was had for county and precinct offices.

Laramie County, as now defined, is in the southeast part of the Territory, extending north, along the Nebraska line some 170 miles in length, to Crook County, and along the Colorado line west about 65 miles to Albany County and the eastern base of the Laramie range; its area is over 11,000 square miles.

It is a good grazing region, with some large tracts of farming land in the valleys of the streams. It is mainly a plains region with quite extensive coal measures and copper mines underlying it; gold and silver are also found.

United States Forts Russell and Camp Carlin are in the southern portion of the county, and the old far famed Fort Laramie is on the North Platte River, which water-course passes eastward through the county centrally.

When the tide of settlement and civilization approached Laramie County, in 1867, it found but arid plains, with only the possibilities which a wild, rugged nature presented. In 1870 the assessed valuation of the county was $1,397,771; in 1880 it was only $3,857,142.96; but in the next five years, to 1885, the assessed valuation of the taxable property of the county increased to the enormous sum of $8,680,980, and this, too, after cutting off, in 1885, Crook County, with nearly $2,500,000 valuation.

This comparison shows a wonderful advancement in material prosperity of this section of the Territory. The character of the property included in the assessment of 1885 is the same as that of 1870, differing only in increase of quantity and value, and comprehends the following: Cattle, 277,072 head, valued at $4,141,440; horses and mules, 12,416, valued at $427,100; sheep and goats, 39,650, valued at $39,650 (all considered far less than actual numbers); 370 miles of railroad and telegraph property, valued at $897,376.

It should be noted here that the assessed valuation of Crook County for 1885, which belonged largely to Laramie County in 1884, amounts to $2,500,000, which, added to the total valuation of the latter county for 1885 (to give the comparison a proper showing), would increase it to some $11,000,000.

The tax levy upon the assessment of 1885 is 1 mill for Territorial purposes, gradually falling to this point from as high as 4 mills in 1881. Thus the decrease of the rate of tax levy has kept pace with the increase of the property valuation of the Territory. The additional levy for county, school, and all other purposes is 14 mills for 1885. This is above the usual tax, but the recent building of a large county hospital and the construction of many expensive bridges caused the unusually high levy.

The total vote of Laramie County for Delegate to Congress in 1870 was 860; for the same in 1884 it was 3,919. The county had a population of 2,957 by the census of 1870, and now has a population of about 18,000; thus it will be seen that the vote of Laramie County has more than quadrupled during the past fifteen years; that its population during the same time has also increased some sixfold, and its valuation of material wealth has increased during the same period about eightfold.

The county seat of Laramie County is Cheyenne.

The city of Cheyenne is located on Crow Creek, in the southeastern portion of the county, and is the capital of Wyoming. It is the oldest town in the Territory, and is recorded in financial records as the wealthiest city per capita in the United States, counting the entire property of her citizens.

The first day of July, 1867, the present location of Cheyenne was a piece of barren, dreary prairie; July 5, 1867, the city had one house only, where now is situated a compactly-built city of 9,000 inhabitants. Regarding the early building of Cheyenne, Strahorn's Hand-book of Wyoming says, quoting the remarks of an "old-timer":

> Well, one fine day, early in July, 1867, four or five hundred of us pitched our tents here, where there wasn't a sign of civilization, and about half of us woke up at daylight the next morning to find that the other half were living in board shanties.

In 1867 and 1868, while the Union Pacific Railroad was building near this city, it was a large place, of shanties and tents, with about 5,000 people, and probably as "rough" a burg, morally, as ever existed, but as the railroad passed westward the town decreased to less than 1,000 souls; it recovered moral tone and then commenced its permanent growth. The growth of this city during the past three years has been truly phenomenal. The valuation for assessment of the city is over $3,000,000, being a small percentage of actual value.

The city owns extensive water-works, supplying her inhabitants, for which she is offered much more than her entire indebtedness. An extensive system of sewers is already in, and the city is provided with gas and electric light (of both "arc" and "incandescent" systems) for public and private lighting.

Nearly all social and other societies, such as Masons, Odd Fellows, Knights of Pythias, &c., own their own stone or brick buildings, and the general character of her residences and business blocks would rank with an Eastern city of twenty times her size.

The city has three daily and four weekly newspapers, a large opera-house, plenty of good hotels, five banks, several real-estate and loan offices, a telephone exchange of two hundred subscribers, three telegraph offices with over a dozen operatives, and, in fact, nearly every business convenience usually found in the Eastern metropolitan cities. Besides the "Magic City," as Cheyenne is sometimes called, Laramie County has many towns, but want of space forbids their mention.

ALBANY COUNTY.

This county lies west of Laramie and extends from the Colorado line north 170 miles to Crook County, and west about 40 miles to Carbon County.

Albany County was formed by the Dakota legislature in 1868–'69, sitting at Yankton. The first, or organizing officers thereof, were selected in 1868 as follows: A. M. Bradley, representative in the Dakota legislature; F. L. Laycock, H. Wagner, and F. D. Abbott, county commissioners; L. D. Pease, county clerk; N. K. Boswell, sheriff; E. L. Kerr, prosecuting attorney.

Upon the organization of Wyoming Territory, the first legislature thereof re-established its limits, as above indicated, December, 1869, with Laramie City as its county seat.

The Laramie range of mountains mainly lies within its eastern limit to the North Platte River, while its western limit includes the famous and productive Laramie plains.

Two abandoned military forts are in this county, Fort Fetterman, on the Platte River in the north, and Fort Sanders, on the Laramie River, in the southern portion near Laramie City.

The chief productive industries of this county are grazing, agriculture, and mining, with some manufacturing. Extensive soda lakes exist in its southern part, which are productive of large quantities of soda for commercial uses.

The total assessed valuation of taxable property of Albany County for 1870, the first year after its organization under the jurisdiction of Wyoming, was as follows: Horses and mules, 335, valued at $26,960; sheep and goats, 2,500, valued at $3,000; cattle, 6,618, valued at $98,390; swine, 91, valued at $1,245; all other property, $1,268,166, making a total of $1,397,761.

The assessed valuation for 1871 was $1,810,683, upon which tax levy was made of 15 mills for all purposes.

For the year 1885 the assessed valuation of taxable property and personalty, was as follows: Total valuation, $4,197,814.47, of which there was—cattle, 91,985 head, valued at $1,409,940; horses and mules, 8,046, valued at $247,030; sheep and goats, 83,564, valued at $127,804; railway and telegraph property, valued at $950,554; the balance of the above total being mining, manufacturing, merchandise, real estate, and sundry items.

The county derived additional revenue from licenses and other incidental sources for the present year of $9,500.

Upon the above total assessed valuation for 1885, the tax levy for general Territorial, county, and school purposes, was 15 mills. The total vote of the county cast at the election of 1872 for Delegate to Congress was 922; the total vote cast at the general election of 1884 for Delegate to Congress was 2,509.

The population of the county in 1870 was 2,021, according to the official census; the population in 1885 is estimated at 12,500, according to the last vote.

The following are the present county officers: County commissioners, J. H. Finfrock, John McGill, and J. J. Strode; county clerk, George W. Fox; probate judge and treasurer, Otto Gramm; sheriff, William A. Jameson; county attorney, H. V. S. Groesbeck; superintendent of schools, Helen M. Bradshaw; assessor, Charles Houston; surveyor, W. O. Owen; coroner, L. S. Barnes, besides the precinct officers.

The county seat of Albany County is Laramie City. This city is doubtless the most attractive in the entire Territory as regards the material advantages and scenic surroundings. It is situated on the Laramie River, near the center of the great Laramie plains, 7,143 feet above the sea-level, with the Laramie range of mountains east, and different spurs of the Snowy range of the Rocky Mountains on the west.

It is the end of a division on the Union Pacific Railway, and has a branch railroad running from the town to the soda lakes a few miles westward. The Union Pacific Railway Company have extensive machine shops here, also a large rolling mill for making rails and merchant iron. Soda works are also located here, and the near future will bring many manufactories to utilize the abundant material which the mountains around Laramie have in store for development.

The city has one daily and two weekly newspapers, a good hospital and county buildings, a commodious opera house, two national banks, many fine business blocks, elegant residences and fine school buildings. The city has a good water system, a telephone exchange, and is now constructing an extensive electric light plant.

There are numerous other growing towns in Albany County.

CARBON COUNTY.

This county, thus named because of its vast coal fields first discovered within its limits, lies next west of Albany County. It extends north from the Colorado line to Johnson County, 170 miles, is 75 miles wide and is bounded on the west by Sweetwater and Fremont Counties.

This county was originally a part of Albany County, under the laws of Dakota. After the organization of Wyoming Territory, its first legislative assembly re-established its limits under the name of "Carbon."

The Laramie plains extend into its eastern limit to the North Platte River, affording a fine region for grazing purposes.

The Medicine Bow Mountains are in the southern part, the northwestern limit of the Laramie range, the Rattlesnake and eastern end of the Sweetwater range are in the northern part, and the North Platte River flows centrally from its southern limit to the Rattlesnake Mountains, thus making it well watered.

It has extensive coal fields, timber, iron mines, red oxide paint beds, and more or less of the precious metals. Carbon County is rich in natural resources; it is also the wealthiest county in the Territory, after Laramie, in industrial interests, such as grazing, mining, &c.

The total valuation of all the taxable property of Carbon County for 1885 is $4,829,700, upon which amount the tax levy was 12 mills. The vote of Carbon County cast for Delegate to Congress in 1870, was 333; in 1884 it was 1,906. The following are the present county officers: Sheriff, James G. Rankin; deputy sheriff, J. B. Adams; judge of probate and county treasurer, D. C. Kelley; county attorney, Z. T. Brown; county commissioners, William Brauer, John Thode, M. E. Hocker; county clerk, W. L. Evans; superintendent of schools, Mrs. Lizzie W. Smith; assessor, Jens Hansen; coroner, George W. Durant; surveyor, W. W. Peay, besides the precinct officers.

The county seat of Carbon County is Rawlins.

This is a town of about 3,000 inhabitants, situated on the Union Pacific Railway, and is the end of a railroad division, and has large railroad machine shops. It is a lively, smart, and growing business town, with two strong banks and many merchants and business firms. It has three weekly newspapers, an opera-house, expensive county buildings, stores and residences. The town is supplied with artesian well water.

Carbon County also contains other large towns.

SWEETWATER COUNTY.

This county was originally organized as "Carter" County by an act of the legislature of Dakota Territory, approved December 27, 1867. It lies next west of Carbon County, and extended from the Colorado line about 275 miles north to the Montana line, and 130 miles to Uinta County on the west, and had an area of about 35,000 square miles.

After the organization of Wyoming Territory, the legislature at its first session changed the name to Sweetwater County.

By an act of the legislature approved March 5, 1884, a new county, called "Fremont"—thus named in honor of General John C. Fremont, an early explorer of the region within its limits—was created from the north part of Sweetwater County. Therefore Sweetwater County is now only 84 miles from north to south (with Fremont on the north) and 130 miles east and west.

This county is rich in coal and is a good grazing region. The celebrated Rock Springs coal mines, which have achieved notoriety as the locality of the recent Chinese massacre, are located in this county.

The industrial interests of this county are mainly grazing and coal and other mining.

The total assessed valuation of the taxable property of the county for 1870 (the first year after its organization) was $1,840,121, upon which the tax levy for all purposes was $24,049.93.

The assessed valuation of taxable property for 1885 is $2,478,675.75, upon which, and the polls, was levied the gross sum of $41,135.48 for general Territorial and county purposes, which includes, however, special levies and poll tax. Revenue from licenses, &c., from January to November 13, 1885, $5,225.

The total vote of Sweetwater County for Delegate in Congress in 1870, including Sweetwater, before Fremont and a part of Johnson Counties were taken off, was 640. Total vote for Delegate in Congress in Sweetwater in 1884 was 1,066.

The following are the present county officers: County commissioners, George W. Richards, W. H. O'Donald, and R. E. Son; county clerk, Ed. J. Morris; probate judge and county treasurer, Alfred Young; sheriff, Jos. Young; county attorney, A. B. Conaway; superintendent of schools, Amanda B. Tisdel; assessor, W. W. Patterson; coroner, O. S. Johnson.

The population of Sweetwater County in 1870 was 1,916, according to the United States census.

Green River City is the county seat of Sweetwater County. It is located on the banks of that beautiful stream, Green River, and is a town of 1,000 to 1,500 inhabitants.

It has a weekly newspaper, and Rock Springs, a town of about the same size, 15 miles east, in the same county, has another.

Green River is the end of a division on the Union Pacific Railway, and is a trading headquarters for stockmen, miners, and others. The county buildings are substantial brick structures, as are many of the business houses and dwellings.

UINTA COUNTY.

Uinta County was named thus after the Uinta Indians and the Uinta range of mountains on its south. It is the western county of the Territory, surrounded by Sweetwater and Fremont Counties on the east, Montana or Yellowstone Park on the north, Idaho and Utah on the west, and Utah on the south. It is 50 miles wide and 270 miles long, north and south, including the Yellowstone National Park.

This county was created by the legislature of Wyoming, by an act approved December 1, 1869, and mainly covers the territory detached from the Territories of Utah and Idaho. It is quite mountainous in its surface features; the Bear River, Salt River, Teton, and Wind River ranges extending along its whole length mainly on the west, with fine productive and beautiful valleys along the rivers. In the north its natural scenery is grand. In the south extensive coal fields exist, which annually produce large quantities. The county has excellent grazing ranges besides agricultural regions along the valleys. Minerals also exist in various localities.

The civic organization of the county was perfected April 7, 1870, when the first meeting of its organizing county commissioners was held.

The total vote cast at the first election held September 6, 1870, was 570; and the total vote for Delegate to Congress in 1884 was 1,446.

The following are the present county officers: County commissioners, J. Van A. Carter, J. C. Winslow, and P. J. Downs; county clerk, John Stone; judge of probate and county treasurer, F. H. Harrison; sheriff, J. J. LeCain; county attorney, C. D. Clark; superintendent of schools, F. L. Arnold; county assessor, B. F. Tregea; county surveyor, J. M. Sights; coroner, A. H. Brisbing.

The assessed valuation of taxable property in the county for 1870

was $593,547.50. The tax levied upon this sum was 14 mills for all purposes.

The assessed valuation for 1885 is $2,376,489.55. Upon this the general levy for all purposes is 10½ mills.

The county seat of this county is Evanston. This town has from 2,000 to 3,000 inhabitants. It is the end of a division on the Union Pacific Railway, and has quite extensive machine shops.

The county buildings, churches, school-houses and many business blocks are substantial stone and brick structures, and some very fine dwellings are now being constructed. There are two weekly newspapers, a handsome opera house, several banks, and a great many strong mercantile firms. Eleven coal mines are being worked at Almy, within 3 miles of this place. A United States land office is located at Evanston. The county contains many other towns.

FREMONT COUNTY.

The territory forming this county until March 5, 1884, comprised the northern portion of Sweetwater County, on which date it was detached and formed into Fremont County by act of the legislature. It lies north of Sweetwater, west of Carbon and Johnson, south of Montana, and east of Uinta County.

Its surface features are varied from valley and plain to mountain. The Shoshone and Wind River Mountain ranges extend from the north along the west limit of the county to the Sweetwater and Rattlesnake ranges, which continue to its southeastern corner. The tributaries of the Green, the Wind, and the Sweetwater Rivers run through it, and the Big Horn forms part of its eastern boundary.

The county is one of the richest in mineral, grazing, and agricultural resources in the Territory. The first known gold mines found in the Territory were found in the region about the South Pass in this county. Besides there are copper and iron mines, vast basins of oil and extensive coal-fields within its limits. The Shoshone Indian Reservation lies in the fertile and rich valleys of the Wind River and tributaries within this county.

The industrial interests of Fremont County show a fair condition of development, especially in agriculture and grazing, as indicated by the assessed valuation of its taxable property. The total valuation for 1884 of all kinds of real and personal property was $1,689,947, of which $1,366,160 was in cattle, the balance being other kinds of live stock, merchandise, moneys, and credits, real estate, &c. The tax levy on this valuation was 14 mills.

The assessed valuation of the taxable property in 1885, the second year of the county's existence, is $1,983,038. The levy upon this sum for all purposes is 14 mills. No railroad property is included in Fremont County.

The population of Fremont County, as shown by its first enumeration in 1884, was 956.

The total vote of the county at its organization election, April 22, 1884, was 482. The total vote cast at the general election, November 4, 1884, was 653.

Upon the election of the county officers, April 22, and upon their qualification May 6, 1884, the organization of Fremont County was perfected.

The following are the present county officers: Representative to the Territorial legislature, James Kline; county commissioners, R. H. Hall,

H. E. Blinn, and A. J. McDonald; county clerk, J. A. McAvoy; judge of probate and county treasurer, H. G. Nickerson; sheriff, J. J. Atkins; county attorney, A. H. Bright; county assessor, J. W. Oneal; superintendent of schools, Mrs. T. E. Caldwell; surveyor, F. S. Wood; coroner, Samuel Iims.

Lander is the county seat of Fremont County, and is on the Popoagie River, southeast of Fort Washakie, and about a hundred miles north of the Union Pacific Railway. It has two stage lines south to the railroad, running into Rawlins and Green River, also a telegraph line. It is a lively, growing trade center, and situated near one of the best developed farming sections in the Territory. Its population is something less than 1,000. It has a bank, a weekly newspaper, and many stores, residences, &c.

JOHNSON COUNTY.

By act of the legislative assembly, approved December 15, 1877, the county of Johnson was created from the north end of Carbon and the northeast corner of Sweetwater Counties, and designated as the county of "Pease." However, the name was changed to "Johnson" by act of the legislature, approved December 13, 1879.

Johnson County, as organized, is surrounded by Crook County on the east, Montana on the north, Fremont County on the west, and Carbon and Fremont Counties on the south. It is about 105 miles from north to south, and about 110 miles from east to west, and comprehends an area of some 12,000 square miles.

Johnson is one of the best agricultural counties in the Territory. Excepting the Big Horn range of mountains, which traverses it southward, the surface is generally productive plains. Agricultural products are raised abundantly and successfully in the eastern portion. The first agricultural fair ever held in the Territory occurred at Big Horn the present autumn, which marked an advanced step in Wyoming's natural and industrial resources. The exhibits were fine and the fair a success. Besides the agricultural interests of the county, the precious metals and the baser minerals, coal and oil are found. Johnson County is also becoming a manufacturing region, as shown by the fact that there are already nine saw-mills within its limits, three operated by water-power and six by steam, which have an average daily cutting capacity of more than 6,500 feet each. The product of these mills the present year was 4,856,378 feet of first-class lumber; 2,381,235 feet of second-class lumber; 1,994,275 shingles; 270,810 laths; 143,952 slabs. This was all used for home consumption. Coal can be had in various localities for the digging.

The assessed valuation of the taxable property of this new and prosperous county was, for 1881, $1,259,981. The tax levy upon this, for all purposes, was 14 mills.

The assessed valuation for 1885 was $3,781,290.35. The tax levy upon this, for all purposes, this year, was 18 mills. Revenue from all sources this year, to November 10, is $83,900.

The population of the county in 1881 was 671. The total vote cast at the organizing election, April 9, 1881, was 456.

Upon the qualifications of the county officers, chosen at this election, the organization became perfected, May 10, 1881. They held office until the next regular general election.

At the general election, held in November, 1884, the total vote cast was 1,312.

The following are the present officers: County commissioners, George Brundage, J. P. Marks, and William Garrard; county clerk, M. G. Carwile; probate judge and county treasurer, S. T. Farwell; sheriff, F. M. Canton; county attorney, J. D. Hinkle; county assessor, C. A. Farwell; superintendent of schools, Mrs. Stella Green; surveyor, J. B. Menarde; coroner, J. C. Watkins.

Buffalo is the county seat of Johnson County. It is pleasantly located on Clear Creek, near Fort McKinney, at the eastern base of the Big Horn Mountains. It has a population of 1,000 to 1,500; is over, and in the midst of, extensive coal fields; and is also surrounded by the finest scenery, and the best grazing and agricultural districts in Wyoming. The county and school buildings are substantial and elegant, and there are good stores and dwellings.

The town supports two weekly newspapers and two banks.

A telegraph and stage line connects this town with the Territorial capital; a stage line runs to Rock Creek on the Union Pacific Railway, and a stage line also connects the town with the Northern Pacific Railway.

There are many other fine, growing towns in this most promising county, but lack of space forbids mention, except county seat.

CROOK COUNTY.

This county was taken from the north ends of Laramie and Albany Counties, and created by legislative enactment, approved December 8, 1875, into the county of Crook—thus named in honor of the distinguished brigadier general by that name. It lies in the northeast corner of the Territory, with Dakota on the east, Montana on the north, Johnson County on the west, and Albany and Laramie Counties on the south. Its dimensions are a little over 100 miles square.

Its general surface features are rolling plains, the Black Hills, and other slight collateral ranges and hills occupying but a small portion of the county. It is a good agricultural county, in the main, is fairly well watered, and has more or less timber along its streams and on its hillsides. It abounds in coal, oil, and somewhat of the precious metals. It is being settled up rapidly, and is destined to become a well-populated and flourishing section of the Territory.

The assessed valuation of the taxable property of the county the present year is $2,423,058. The levy upon this was 15 mills, for all purposes. The revenue of the county from licenses and other incidental sources for the present year is $946.

The population of the county at its organization was estimated to be from 1,200 to 1,500.

On the 22d day of January, 1885, the organization of the county was completed by the officers chosen at a special election held December 9, 1884.

The vote cast at this election was 555, by which the following county officers were chosen, who still continue as such:

County commissioners, W. J. McCrea, A. C. Settle, and W. H. Harlow; county clerk, John S. Harper; probate judge, J. P. Gammon; treasurer, M. W. Pettigrew; sheriff, James Ryan; assessor, G. M. Wood; county attorney, B. F. Fowler; superintendent of schools, Mrs. P. Pattee; surveyor, J. B. Boyden; coroner, T. D. Sherwood.

The county seat of Crook County is Sundance. This young town of only about 200 inhabitants and an age of scarcely more than months,

instead of years, has already a weekly newspaper, a bank, a school, and many residences and business places. The town is on Sundance Creek, centrally located as to county boundaries, in the midst of a rich agricultural district, and surrounded by good grazing lands.

WYOMING'S EARLY DRAWBACKS: THE "RED MAN," "ROAD AGENTS," STOCK THIEVES, ETC.

The pioneers of Wyoming found the red man here in possession of its broad domain, as sovereign monarch of all he surveyed. As the genuine native American, he yielded to the tide of advancing civilization only through its superior force, and even then often stubbornly resisting its aggressions upon a domain he claimed as his birthright.

The tribes of Indians occupying the region now covered by Wyoming were the Sioux, Crows, Arapahoes, Shoshones, and others, and they remained here in greater or lesser numbers until they were compelled to go upon reservations elsewhere, the Utes on the south, in Colorado, the Sioux on the western limit of Dakota, the Crows on the southern limit of Montana, and the Shoshones and Arapahoes near the eastern limit of Idaho, and on their reservation in the Wind River Valley of Wyoming.

Thus it will be seen that while the hostile and troublesome Sioux and Crows occupy reservations outside our eastern and northern border, they have given Wyoming more or less annoyance and anxiety through their marauding incursions from time to time.

In the early days of Wyoming its settlement and industrial interests were very much retarded through the hostility of these tribes, miners and settlers being driven by them from their mines and homes. The desperate conflicts waged against them by military forces to subdue their hostile and murderous depredations within and on the borders of the Territory are unforgotten, not only because of the terror of the punishment thus inflicted, but also because of the material injury they caused settlers in the destruction and capture of property and suspension of the development of Wyoming's interest then so well begun; in fact, they closed the great, rich Big Horn region against settlement and mining, until after the capture and surrender of the Sioux to General Crook, in 1877 and 1878, which resulted in securing title to Wyoming of their former reservations. Besides, the capture of Joseph and his tribe of Nez Percés about that time also had a salutary effect upon the Sioux, Crows, and other troublesome tribes, and peace and security were soon fully established in all parts of the Territory.

After the chastisement of the Sioux in 1877, all the agencies within the northern part of the Territory were removed to the Upper Missouri in Montana. To-day there are no Indians within the limits of Wyoming, except the Arapahoes (900) and the Shoshones (1,250), who occupy the Wind River Reservation, covering an area of over 1,520,000 acres.

Since the war with the Sioux, in 1877, these tribes have been peaceable, give no trouble and are making some progress toward civilization. There has been, however, just complaint that Indians from reservations outside the Territory have taken unwarranted liberties in roaming over Wyoming and depredating to more or less extent, especially in the western and southwestern portion, usually in the spring of the year. It is earnestly hoped that the Department will prevent further incursions of this kind.

ROAD AGENTS.

The same year, of 1877–'78, which closed the hostile Indian depredations and terror, the combined military and local efforts routed out the bands of desperadoes—"road agents," as they were called—which then infested the railroad and Black Hills stage lines, for robbery; hence, these were years important to Wyoming, as its period of transformation to a higher civilization and a career of progress and development.

STOCK THIEVES.

Domestic animals running at large in remote parts of the country offer strong temptations to the dishonest; hence, in the earlier days of Wyoming, those who invested in cattle and horses, and conducted their business upon the range system, had many trials and discouragements from losses through theft, and those who did the stealing were not confined to one class, but there seemed to be constant "assessments" against their herds from almost numberless quarters. For instance, the Indians often shot the calves for the pleasure, evidently, of seeing them run, and for target practice, always taking, of course, from the calf or grown animal such choice bits of the carcass as might tickle the palate. As to horses, they were the Indians' particular weakness, and they were, in those days, taken wherever found.

Then came the railroad grade contractor, the emigrants, the freighter, the prospector, and various others, some of whom found it easier to shoot a steer than an elk, and cheaper to shoot and steal their meat than to buy it. Also came the commercial thief, who stole cattle and horses as a business following, blotching and defacing the brand beyond recognition, and driving them to some distant market for sale. Still worse, came the sneak thief, who settled on some stream frequented by cattle for drink, in an out-of-the-way place, not too far from town or railroad, and here he killed the larger animal, destroying the branded hide and selling the meat in quarters; also catching the calf before branded, away from the mother, and selling for veal. Then there was the dishonest neighboring cattle-grower, who kept his branding-iron hot and placed it upon everything unbranded and everything already branded, when faint and imperfect brands could be covered by his own. Worst of all, however, the last and most troublesome thief was the "rustler," who was continually on the range with his iron, secretly dropping a brand on an animal here and there, and who, while owning nothing to commence with but his iron, and usually not asserting his ownership for two or three years, would then sell his brand under a regular bill of sale to some not over-particular purchaser, and—change his location. Of course no one could easily prove of whom the different calves were taken, and the "rustler's" brand held good.

In enumerating them, the *ordinary horse thief* is not mentioned, as his crime has been tacitly ruled upon by the Western American people as one *nearly* meriting lynch law, and in the early days "nearly" was stricken out, and "give him hemp" was added as the invariable amendment.

The counties of Wyoming being very large (some of them as large as 130 by 275 miles in area), and thinly settled, with very meager railroad facilities, and with Indians (not always friendly) throughout the Territory, it was next to impossible to secure arrests or convictions, and it was this state of affairs, more than any other, that brought forth the Wyoming Stock Growers Association. This association has co-operated

with the officers of the law and exerted its influence among stock-growers until now branded live stock on the range, also the "maverick," is as safe, all things considered, as merchandise on the shelves of the dealer. The Indian has also been provided for, and now property in Wyoming is believed to be as safe from theft as in the most favored localities.

POPULATION.

Fifteen years ago the population of the Territory of Wyoming was but 9,118, according to the census of 1870, and it was but 20,789 in 1880. Since that time, however, the gain in population has been very rapid, and it is believed to be upwards of 65,000 now.

No census was taken in 1885. The legislature having made no appropriation for that purpose, the act of Congress providing for payment of one-half the expense by the United States Government could not be taken advantage of.

The result of the census of 1870 was as follows:

Counties.	Total.	Males.	Females.	White.	Colored.
Albany	2,021	1,635	386	1,971	50
Carbon	1,368	1,193	175	1,360	8
Laramie	2,957	2,240	717	2,822	135
Sweetwater	1,916	1,492	424	1,777	139
Uinta	856	659	197	796	60
Total	9,118	7,219	1,899	8,726	392

The total vote of the Territory for Delegate in Congress was 3, 202, or a little more than one vote to every three persons of the total population.

It will be observed that nearly three-fourths of the population were males; and it is a fact, well known to those who resided here in 1870, that nearly the whole population were adults. There were very few children and scarcely a school-house in the Territory at that time, while there are now thousands of children and hundreds of schools.

The total vote of 1884 for Delegate in Congress was 12,811, and from a comparison of the *personnel* of the present population with that of 1870, the most competent judges estimate that to multiply the vote of 1884 by 5 would not overestimate the present population. This would give the population of 1884 as 64,055 and the increase the past year has been greater, perhaps, than for any preceding year; so that 65,000 *now* seems a *very low* estimate; in fact, many conservative people put the mark as high as 80,000.

It may be claimed that these figures, based upon the vote, are incorrect on account of "woman suffrage" in Wyoming, but that is more than balanced by these facts:

(1) Along the line of the Union Pacific Railroad and in the cities and towns, a very large number of aliens, who have no vote, are employed in the coal mines and in other industrial pursuits.

(2) In the stock-growing region (and this comprises the larger portion of Wyoming) the population is scattered over a very broad area, with comparatively but few voting places, and scarcely one in fifty of those employed on the ranches go to the polls to vote.

(3) The proportion of children in Wyoming is becoming very large in

comparison with many localities; the natural result of a largely "medium age" population.

FINANCIAL STANDING OF WYOMING.

The Territory of Wyoming has no Territorial debt, either bonded or floating, and the balance of cash in the hands of the Territorial treasurer, October 1, was $19,380.75.

The levy for general Territorial tax was, in 1880 and 1881, 4 mills on $1; 1882, 2 mills on $1; 1883, 1 mill on $1; 1884, three-fourths of a mill on $1; 1885, 1 mill on $1.

DEBT OF THE COUNTIES OF WYOMING.

The several counties of Wyoming are all in good financial condition, as the following debt statement will show. As the county taxes are collected during September, October, and November, several of the counties enumerated will be entirely free from debt before January 1, 1886, with good balance in the Treasury; and those not entirely out of debt by that time will decrease their indebtedness to an insignificant sum, say, $150,000, on the entire eight counties composing the Territory.

County debt statement.

[Debt figures, approximate, interest not being figured exact.]

County.	Debt.	Assessed valuation, 1885.
Albany	$67,500	$4,197,814 47
Carbon	65,000	4,829,700 00
Crook	.....	2,423,058 00
Fremont	.....	1,949,241 00
Johnson	55,000	3,781,290 85
Laramie	25,000	8,777,315 69
Sweetwater	60,000	2,478,675 75
Uinta	75,000	2,376,489 55

The assessed valuation must be understood as being exceedingly low, in fact only a fraction of the real value. In live stock the animals are scatterred over a wide area, and to find any one man's entire brand of live-stock—when on open range—would necessitate the collection of all the stock within a radius of scores, and, in some instances, hundreds, of miles, so that the stock-grower must offer, and the assessor accept, "book count" as to numbers. Then from this number is subtracted a large percentage to cover possible losses sustained, and then the custom has prevailed of putting assessed value at about one-half the market value, and on about the same basis that the railroads are listed, for valuation. Improved real estate, merchandise, and other property must then take a low grade to correspond, and thus the valuations are far below actual value.

There is comparatively very little land in the Territory that is taxable, as the United States Government has given title to but little, although much has been settled upon and is in process of being "proved up" upon.

MUNICIPAL DEBT.

The aggregate debt of the cities and towns in Wyoming is very small. Cheyenne, the capital of Wyoming, has a bonded and floating debt of

$175,000, chiefly incurred in the recent construction of her extensive system of water-works and sewerage. The revenues of her water system more than pay the interest on the entire debt and will eventually pay the principal. The city has been offered much above its entire indebtedness for its water franchise.

The total indebtedness of all other incorporated cities and towns in the Territory will not exceed $75,000, so that the entire debts throughout Wyoming Territory—Territorial, county, and municipal (exclusive of school debts)—will not exceed, at this writing, $400,000, after allowing credit for money balances recently collected for annual taxes; and if every school debt in the Territory, floating or bonded, were also added the grand total would still be less than *one-half a million dollars.*

RATE OF TAXATION.

The rate of taxation varies somewhat in the different counties and also in different years, but a careful comparison and computation shows that the average rate of all the counties for the past five years is less than 15 mills on the dollar—Territorial, school, and county—and including everything except where within the few incorporated cities and towns, and in these 5 to 8 mills more should be added, according to locality. A large portion of the tax has been for school purposes and a large part of the school proportion has been for erection of school houses, which are, in the main, substantial brick structures. The school taxes will doubtless grow materially less hereafter, the many fine school buildings having been paid for.

Considering the low valuation heretofore alluded to the taxes of Wyoming will compare favorably with the most favored States and Territories.

A poll-tax of $2, which goes to the common school fund, is taxed up in all the counties.

BANKS.

The following banks are now doing business in Wyoming Territory:

[Capital of private banks, approximate.]

Town.	County.	Name of bank.	Capital.	Surplus.
Buffalo	Johnson	First National	$45,000	$1,000
Cheyenne	Laramie	First National	200,000	50,000
Do	do	Stock Growers' National	400,000	50,000
Do	do	Cheyenne National	100,000	.....
Do	do	Cheyenne Savings Bank	100,000	50,000
Do	do	Morton E. Post & Co	100,000	.....
Evanston	Uinta	Beckwith & Co	85,000	.....
Do	do	Mutual Exchange	35,000	.....
Laramie	Albany	Laramie National	100,000	15,000
Do	do	Wyoming National	50,000	75,000
Lander	Fremont	First Lander Bank	35,000	.....
Rawlins	Carbon	James France	100,000	25,000
Do	do	J. W. Hugus & Co	85,000	10,000
Rock Springs	Sweetwater	Miners and Stock-growers'	15,000	.....
Sundance	Crook	Stebbins, Fox & Co	50,000	.....

RATE OF INTEREST ON MONEY.

The legal interest rate on public debt—Territorial, county, and municipal warrants, &c.—is 8 per cent. per annum, although some public bonded indebtedness is floated for a lesser rate.

The legal rate on private indebtedness, when no fixed rate is given in the written obligation, is 12 per cent. per annum. No usury laws exist, and any rate agreed upon in writing is collectible. The banking rates of discount are 10 to 12 per cent. per annum.

The average deposits in banks aggregate about three times the total capital employed in banking.

Owing to the high interest rates, quite an amount of foreign or outside capital is loaned within the Territory, and very much more would seek investment here did capitalists and financiers understand more fully the tangible, solid resources of the Territory and of her business men.

INDIVIDUAL FINANCIAL RESPONSIBILITY.

Probably no political division of America can show a cleaner financial record than Wyoming Territory, since its organization seventeen years ago, as to business failures. A score in numbers would more than cover every failure or insolvency in banking, manufactories, and mercantile pursuits, as to individuals, firms, or corporations; and financial failure in the live-stock business is almost unknown. In the little farming that has been done success has seemed to follow every energetic effort. In mining, the usual "ups and downs" that follow that business have attended this industry in Wyoming. But enough has been accomplished to show that a brilliant future awaits those who hereafter interest intelligent labor and capital in the development of the mineral resources of the Territory.

The mercantile agencies of Bradstreet and Dunn, in their carefully prepared, conservative statements of actual worth, or net cash capital invested by Wyoming's business men, show that the business interests are very strong. In Cheyenne, the capital city, with about 9,000 inhabitants, these reports show some fifty business men and firms, who are rated at $100,000 and upwards, some above $1,000,000, and this exclusive of banks (five in number, with an aggregate capital of over $1,000,000) and business corporations. Of the latter, Cheyenne has about twenty that are rated from $150,000 to $3,000,000 each, net cash capital.

What is true of Cheyenne, in a business way, is more or less true in other localities of the Territory.

GENERAL BUSINESS.

Business throughout Wyoming is good. Those engaged in legitimate business with fair attention and fairly economical management are prospering. The field is large and open, and none seems more inviting to industrious, energetic effort, whether accompanied by monied capital or not.

The broad plains invite the profitable investment of millions of dollars in live-stock raising, and the known mineral wealth of Wyoming invites as many millions more in its successful development, promising the most lucrative returns. Agriculture also presents a broad and profitable field.

These and many other prominent resources bring along in their train of development all the other secondary branches of business, such as manufacturing, banking, merchandising, also the professional employments, &c. Labor also finds an active demand and prompt, liberal returns.

For information, I append the following list as the average prices paid, respectively:

Current wages paid.

Occupations.		Wages.
Carpenters	per day	$2 50 to $4 00
Machinists	do	3 00 to 5 00
Painters	do	2 50 to 3 50
Tinners	do	3 00 to 3 50
Stone-cutters	do	3 00 to 6 00
Plasterers	do	2 75 to 3 50
Roustabouts	do	1 75 to 2 00
Miners	do	2 50 to 4 00
Coal miners (by the ton)	do	2 75 to 5 00
Engineers	do	3 00 to 4 00
Bricklayers	do	4 00 to 6 00
Stone masons	do	4 00 to 6 00
Shoemakers	do	2 50 to 3 50
Gas-fitters	do	3 00 to 3 50
Day laborers	do	2 00 to 2 50
Upholsterers	do	2 50 to 3 50
Cabinet-makers	do	2 50 to 3 50
Plumbers	do	2 50 to 5 00
Tailors	do	2 50 to 3 50
Bakers	do	2 50 to 3 00
Railroad track men	do	1 50 to 2 25
Cowboys (with board)	per month	25 00 to 35 00
Horse wranglers (with board)	do	25 00 to 40 00
Farm hands (with board)	do	25 00 to 40 00
Sheep-herders (with board)	do	20 00 to 25 00
Teamsters (with board)	do	25 00 to 40 00
Cooks (with board)	do	20 00 to 50 00
House servants (men) (with board)	do	20 00 to 35 00
House servants (women) (with board)	do	12 00 to 35 00
Railroad brakemen (without board)	do	60 00 to 75 00
Railroad conductors (without board)	do	75 00 to 100 00

For foremen and superintendents, as well as for clerks, book-keepers, stenographers, and special employments, a wide range could be reported, varying all the way from $50 per month to $250, and in some cases large cattle corporations have paid fabulous salaries to their managers, say from $10,000 to $25,000 per year.

LIVE-STOCK INTERESTS.

Wyoming is probably better known regarding her grazing and live-stock advantages than any or, in fact, all her other interests.

Necessary laws have been enacted from time to time to fully protect the live-stock industry, and the Wyoming Live Stock Growers' Association, perhaps the strongest association of its kind in the world, has also its by-laws and regulations for the protection and advancement of the interests of all live-stock growers of the Territory, whether members of the association or not.

This association has a membership of about 450, representing more than $100,000,000, and including many members from the adjoining States and Territories.

The association was organized in 1873 with but ten members, representing but about $250,000. Its growth has been marvelous, and its power for good very great. A large fund is annually raised and expended for inspection, as to ownership, of all cattle *leaving* the Territory; for inspection as to sanitary condition and to prevent introduction of disease among stock coming *into* the Territory; for assisting in the apprehension of criminals, and for various other miscellaneous purposes.

The association has its annual meeting at Cheyenne every spring. Its executive officers the current year are: J. M. Carey, president; John A. McShane, vice-president; Thomas Sturgis, secretary, and A. H. Reel, treasurer. It also has an executive committee, consisting of twenty-seven members.

Contagious diseases do not exist in the Territory among cattle, and our laws prevent its introduction, and provide for quarantine and necessary veterinary rules and regulations regarding the admission of live stock into the Territory and the eradication of disease, should it break out within our borders.

No contagious disease prevails among sheep, except "scab," and this is never fatal when properly handled; there is very little of it now known among our flocks. A good scab law is vigorously enforced.

No contagious diseases are reported among horses, with the exception of a few cases of glanders during the past season.

Under our laws the affected animals were at once killed and buried and their owners indemnified in the value of the stock so destroyed.

Wyoming has peculiar and valuable advantages of location, not enjoyed by other States and Territories (excepting, perhaps, parts of Colorado and Dakota), for the successful raising and handling of live stock. For instance, she is centrally located as to the "trails," whether it be from Texas on the south, from Oregon, Washington, Idaho, and Utah on the west, or from Montana on the north; she also has excellent railroad facilities for bringing in thoroughbred stock from the east with which to improve her stock, or for shipping out her product, the Union Pacific Railroad traversing the entire length of the southern portion, the Northern Pacific running along just north of her northern boundary, and a new railroad just commencing to build the entire length of her center, between north and south lines; and the Territory also lies at the very door of the great corn-growing States of the Missouri Valley, whose grain can be had at a very low price, where it grows, and our grass-grown stock can be driven, or shipped by railroad to where the grain grows and there "stall-fed" and matured, and at the same time be moving in the direction towards market, and accessible to the great railroad lines mentioned, which, with their converging lines and connections, throw open to Wyoming the marts of the world.

GRAZING LANDS.

The grazing lands of Wyoming are justly noted for their nutritious grasses, which furnish abundant food for summer and winter grazing.

The grasses cure where they grow, and in winter stand firmly on the ground and furnish the animals with uncut hay, which is fully equal to that harvested, cured, and stored in the usual way.

The light snow falls on the plains and low hills, and the dry character of the falling snow, accompanied by brisk winds, leaves the ranges comparatively open during the entire winter months, and only on rare occasions will stock perish for want of other food than that which they can secure for themselves, although a goodly stock of hay becomes an excellent insurance in cases of emergency, and can be used to good advantage to "bring through" any animals that are weak or unfit for hard travel in "rustling" for good grazing spots, and natural shelter during storms.

From one-half to three-quarters of the entire area of Wyoming is adapted to grazing. The following, from the able pen of Ex-Governor John W. Hoyt of this Territory, who has given much time and expense

to the study of Wyoming's resources, will be of interest. After mentioning the enormous area of Wyoming's grazing lands, he adds:

Connect with this fact of primary importance that remarkable distribution of water which renders it possible to open innumerable ranches and cattle ranges, which makes almost every square mile of pasturage available; that peculiarity of the surface,—undulating, with valleys, "draws," cañons, bluffs, and hills so distributed and related as to afford to the herds in nearly every locality protection from storms on the one hand, and on the other secures to them a certainty of food on the ridges made bare (if the storm be snow) by the winds after it is past; that absence of winter rains, so hard upon cattle, and so destructive to sheep unhoused; that extraordinary dryness and lightness of our snows which prevent their incrusting and insures their drifting from the ridges and hillocks, so that stock are never long without easy grazing; that no less remarkable dryness of the atmosphere which gives to it the property of a non-conductor of heat and electricity, so that the exposed animals better retain their animal heat and keep their vital forces in full reserve; and, last of all, but by no means least, that peculiarity of the autumnal season which cures the rich grasses so gradually and perfectly that all winter long they are as standing hay and even much better (for the ripened seed they retain upon the stock makes them more like grain), associate all these important advantages, unequaled, as I believe, and you have in Wyoming the finest pastoral region in the world.

Besides these advantages, it is proper to bear in mind that along nearly all the streams there are moist lands, upon which is annually produced an abundance of the taller grasses, suitable for hay, so that practically every ranchman or owner of herds is able to put hay in almost any quantity for his work horses, his sheep, should he have any, and for such young and tender cattle, blooded or native, as would be better for a little special care.

CATTLE.

Probably over 2,000,000 head of cattle are contained within the borders of Wyoming, worth, on an average, $30 per head.

The business of cattle raising in this Territory can scarcely be longer regarded as in its infancy, nor can the business be called experimental or speculative as to its generalities.

During the years from 1873 to about 1881 cattle commerce in Wyoming was perhaps the most lucrative business known in the world under the head of legitimate reliable avocations.

The business of rearing cattle in the Territory is to-day as profitable as it ever was, but it has lost much of that speculative "sell and buy without tally, anything and any price to get into the business" buoyancy that characterized the time before mentioned.

The prices of stock cattle have advanced to a figure where investors, while willing to pay current prices, want to know to a certainty that they are getting what they pay for, as to numbers, grade, and condition of cattle. There is also a growing conviction that this business will not longer "run itself," and that owners must give it, at least, some small percentage of the attention necessary to accomplish success in other industries, and there is also a prevailing disposition to better provide against emergencies, such as the putting up of hay for the weaker ones, the providing of shelter for thoroughbred and fine stock, the separation of bulls from the herd and special care given them during the winter, &c.

Perhaps the greatest reform is the determination on the part of owners to discontinue the pernicious practice of shipping to market unripe beeves, but, instead, to ship only those of proper age and that are really fat, leaving the younger ones to grow longer on the range, and taking the older ones that are yet lean to the corn-fields of the Missouri valley, for fattening.

Many of our large stock-growers have already provided themselves with eastern feeding-grounds and have constructed suitable structures for fattening their beef on either natural or cooked food.

Concerning the earlier history of cattle raising in the Territory, I quote the following from the able writings of Ex-Governor William Hale, of Wyoming, now deceased:

The business has grown in thirteen years, from small beginnings, until cattle by the thousand roam in every valley and drink from every stream in the Territory. Previous to 1870 a trial of the experiment of cattle raising in Wyoming was prevented by two obstacles, one apparent and the other real. It was believed by stockmen whose herds grazed on the plains south and southeast of Wyoming that the severe storms occurring here during the winter and spring would prevent the grazing of cattle in safety the year round in this region. The occupancy of a large part of the Territory by hostile Indians at that time also deterred stock-raisers from bringing in their herds. In 1870 and 1871, however, several men largely engaged in the business elsewhere sent herds of Texas and Colorado cattle to Wyoming grazing grounds, nearly all of which not only lived through the winter, but showed a hardiness and an increase of weight in the spring greater than would have been looked for had the herds remained on the ranges from which they had been taken. Encouraged by the success of the pioneers, other stockmen in succeeding years drove cattle in large numbers to the plains and mountain parks of Wyoming. The subjugation of the warlike savages and their subsequent removal to reservations made way for more herds and gave to the business greater security. As time passed, it was observed that no disease ever materially decreased the number of cattle in Wyoming; that year after year grass grew abundantly and in the fall dried, or, in the language of stockmen, "cured," without being cut and gathered, and that the losses caused by the inclemency of the weather were no greater than in Texas, hitherto regarded as the best grazing country in the United States.

The transcontinental railroad running through Wyoming afforded, and still affords, quick and ready transportation of cattle to Chicago. As compared with the rate for carrying cattle to the same central market from Montana, Idaho, Washington, Oregon, and Utah, the freight rates paid by Wyoming stock-growers are small. As the knowledge of the advantages possessed by them in conducting their business—exemption from cattle diseases, security from hostile Indians, certainty of grass for cattle at all seasons of the year, and low rates to a market—became known, capital was attracted to the Territory for investment in cattle.

The prices for beef rose rapidly at the Eastern markets for several years previous to the shipments of 1882 of cattle from this range. As a consequence, the business of the summer of that year was characterized by numerous sales of herds on the range at prices never before known in Wyoming. The men who had ventured into the business were then richly rewarded for their enterprise.

Formerly large herds of cattle were driven every year to Wyoming from Oregon and the Territories of the Pacific slope, but these drives from the West have now almost entirely ceased. The drives from Texas have greatly diminished; but during the past summer thousands of young cattle have been brought to the Territory from Missouri and Iowa. Cattle of the Territories west and north of Wyoming were usually accustomed to a climate fully as severe as that which they encountered here. Texas cattle are famous for their hardiness, but it has been found that cattle brought to this range from the Mississippi River basin must arrive early in the summer in order that, before the advent of winter's storms, they may be acclimated.

The following is also quoted and is as applicable to-day as at any former time, except as to the prices given and locality where stock would be purchased by one commencing in the cattle business; these items differ to some extent.

Changes in the methods of conducting the business of cattle-raising in Wyoming have gradually taken place in the course of the past twelve years. The first herds driven into the Territory were composed almost entirely of young steers, and the profit in grazing them accrued simply from their increase of flesh. Later, a larger proportion of cows was brought with incoming herds, and calves were raised on the range. Next, the introduction of bulls of high grade prompted their owners, desirous of preventing them from roaming with cows other than those in their own herds, to erect fences, usually of barbed wire, on that part of their range near the location of their ranches. Finally, men have taken up land under the United States laws, fenced it in, and are raising cattle precisely on the plan adopted east of the Missouri River, excepting that instead of feeding their cattle corn, they feed them hay.

By many times the largest number of cattle in Wyoming, however, are still raised on what may be termed the open range system. Under it a herd of bulls, steers, cows, and calves are permitted by their owner to roam at will over the plains during the greater part of the year.

In following this system, in Wyoming, a man entering upon the business of stock-raising, if he begins with a new herd, proceeds in the following way: Let it be supposed that he is starting with a capital of $150,000, which will enable him to own and manage about 5,000 head of cattle. During the past summer he would have had opportunity to purchase, say 2,000 head of steers at Dodge City, Kans., or Ogalalla, Nebr., just arrived among the annual "drive" from Texas. They would be one, two, and three year olds, and would have cost him $18, $22, and $26 a head. He might, in addition, have purchased 1,000 head of Wyoming steers and cows, of the same ages, at an average of $28 to $30 a head. From Iowa or Missouri he could have imported 2,000 head of young cattle, which by the time they reached his range, would have cost him $22 a head. Under the rules of the Wyoming Stockgrowers' Association he would be obliged to place on his range at least five bulls to every hundred head of female stock, and, assuming that one-half his herd—2,500 head—were females, his bulls would number 125. A herd of about 100 head of broncho horses, familiarly known here as cow ponies, purchased at an average price of $40 a head, with six or eight work-horses, would complete his working stock.

In order to be able to distinguish his cattle from those of all other stockmen, his first care would be to burn upon them a brand differing in form from all others in use on the Wyoming range. Before legally using any device whatever as a brand, he would be obliged to record the one he had selected at the clerk's office in the county wherein his ranch was to be situated. Having selected his brand, it would be submitted to the brand committee of the Wyoming Stockgrowers' Association, and if they found that it did not resemble any brand already recorded, or did not infringe upon the laws which the Territorial legislature has passed relating to the subject, he could proceed to employ it in marking his cattle.

The stockman, in selecting the location of his ranch, would take up a tract near a running stream where there was sufficient meadow-land upon which to raise hay for his 100 horses. He would build a log-house for the accommodation of his herdsmen on the banks of the stream, or perhaps by a spring of water running from the foot of a bluff near by. He would engage an experienced foreman, at a salary ranging from $80 to $200 a month, to take charge of all the work to be done on the range or at the ranch in connection with the care of his cattle. A man of capital entering upon the business would find great difficulty in practically managing his herd, and soon discover that a good foreman at a fair salary was a most profitable investment. Except in the season of gathering the cattle together, he need employ only as many herders—"cowboys"—as are necessary, to drive cattle about on the range occasionally or to make improvements on his ranch.

His cattle branded, his cabin finished, his stables erected, his corrals built, his provisions, wagons, and mowing machines at his ranch, his foreman installed in charge, his cowboys hired, his cattle put out in herds to graze at such places on the adjacent plains as the grass is most promising, the stockman's fall work would be to put up hay to feed his ponies during stormy weather. Winter life on a ranch is much the same as farm life in the East. Calves coming out of season may be cared for, weak cows fed hay, fences repaired, and similar work done. In Wyoming there is in every winter at least one storm, and sometimes several, characterized by a terrific wind, a very low temperature, and a heavy fall of snow. But these storms are not "blizzards," in the sense in which that term is used in Minnesota. Seldom do all three features of the storm occur simultaneously, and rarely does the storm continue for more than three or, at most, four days. During its prevalence cattle on the plains move, or, as is said here, "drift" in a direction with the storm, which in Wyoming is uniformly southeast. By spring some cattle will have drifted from their original grazing grounds a great way—in some years as great a distance as 150 miles. During and after such storms cowboys are sent to points where cattle may assemble in numbers too large to be supported by the grazing to scatter them or to turn them back toward their range.

The chief event in the work of the stockman's year is the "general round-up." When winter is over and green grass is again to be seen everywhere on uplands and lowlands, the owners of herds grazing in one valley, or between the same streams, unite in gathering their cattle together, so that each stockman may separate those of his brand from the rest, drive back to his range those which have drifted away from it, and brand the calves that may have already come. Later in the season every stockman has a "calf round-up" in his own neighborhood, at which he collects and brands his own calves. Still later he rounds up the heavier cattle, for the purpose of sending them to the eastern market, whence they are sent to the consumers.

It is interesting to trace the operations of the general round-up. At the spring meeting of the stock association, in Cheyenne, committees are appointed to organize all the round-up parties which are to work upon the ranges represented in the association. One committee is appointed to arrage for each round-up party, the members of a committee being some of the owners of the stock grazing in the district for which they plan the work.

On the day and at the place appointed for its meeting the round-up party assembles. There accompany a party from six to fifteen wagons, the stockmen owning the herds in the route of the party's work each sending one wagon, while those who expect to gather only cattle which have drifted from other ranges send from one to three men, who use the wagons of the round-up, in common with the rest, to carry their bedding, branding-irons, extra saddles, &c., a favor which they in turn perform on their own range for men not accompanied by wagons. A round-up party traveling with ten wagons has a force of about ten cowboys and a cook with each wagon. Every cowboy has a "string" of six to nine ponies. At night the ponies belonging to the party staying with each wagon are herded together and watched by details of cowboys, who relieve each other at intervals of about three hours.

As early as 3 o'clock in the morning a round-up party is astir. A foreman directs the work. He attempts to round-up in a day all the cattle grazing in a certain area between the uplands dividing two streams, or some similar natural division of the country. He sets out on horseback, followed by the cowboys who are to take part in the business of the day. He directs some of his men to ride out upon the "divides," while other parties are sent along valleys, gulches, and meadows, with orders to drive the cattle to a point where the round-up centers. In the course of a morning's round-up a cowboy frequently rides from 30 to 40 miles, and before noon he is obliged to return to the herd of ponies, which has been driven after the party, and saddle up another of his string. Three or four ponies are often ridden down in one day by a single rider.

The cattle having been collected from the area of country which the round-up foreman desires to cover in a day, they are brought to a stand-still in the open plain in several herds of moderate size. The work of taking the cattle of each owner from one of the herds is then begun. Experienced cowboys ride in among the cattle, and, selecting the animals bearing their employer's brand, drive them out of the general herd and form others, each composed of cattle representing one ownership. This work is called "cutting out." The men not engaged in cutting out are employed in "holding" the herds. The foreman of the round-up has supervision of the work and sees that cattle are claimed only by the men entitled to them.

When cutting out has been finished at one general herd, another is "worked" in the same manner, and then another, and so on until all the cattle driven in during the day's round-up have been inspected and separated.

When the cowboys have taken from the herds all the cattle belonging to their respective employers, there are usually a few cattle left over. These are estrays and mavericks. Both classes are disposed of under regulations of the Wyoming Stock Growers' Association.

Stray animals whose owners are unknown, and which are of a marketable weight, are taken up, shipped, and marketed. A report of the fact is made to an association inspector, and the proceeds are remitted to the secretary of the association, who keeps an account of the money for the purpose of turning it over to the owner of the estrays, should he be found. But if by the time of the next annual meeting no one has claimed the purchase money, it becomes part of the general fund of the association.

A "maverick" is an unbranded calf away from its mother. The custom among stockmen, recognized by the rules of the association, is to brand a maverick found on the general round-up with the mark belonging to the largest female herd in the neighborhood. Each stockman claims a certain part of the grazing grounds of the Territory as his, in the sense that his is the largest female herd in the neighborhood. This partition is, of course, made only for such time as the pastoral system shall be the only one carried on in the locality. A newcomer is not thought to be entitled to yearling mavericks on his range until the expiration of at least a year, as his cows have, it is assumed, only young calves.

The ground covered each day by a round-up is in some localities so nearly the same year after year that inclosures have been made for the purpose of branding calves quickly, at the points where the day's round-up centers. Branding is done in the following manner: Cattle of a single ownership are driven within a "corral," where a fire has been made, at which branding-irons are heated. A man rides in among the cattle, and throws a noose, formed at the end of a stout rope about 20 feet in length, over a calf's head or about one of its hind feet. The other end of the rope is then secured around the pommel of the rider's saddle, and the calf is led apart from the herd to a spot near the fire. It is then thrown to the ground, its ears cut or slit in a certain manner to indicate its ownership, and its brand is burned in its hide.

The work of rounding-up usually takes place in the morning and that of branding calves in the afternoon. The cowboys of different herds assist one another in branding, and the work is done with great rapidity.

Thus it will be seen that the business of raising cattle on the open range is well systematized in Wyoming. As nearly as possible the rights of stockmen are cared for under the laws of the Territory and the regulations of the stockgrowers' association. The stockman just entering upon the business is a sharer in the combined ac-

tion and the customs based on the experiencee of the men who have been for years following the occupation.

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An estimate of the cost of keeping a herd must necessarily depend upon several contingencies, and can only approximate to the true figure. Taxes, for example, vary in the different counties of Wyoming. The work of rounding-up is more difficult and requires more men in some districts than in others. Provisions are cheaper near the railroad than at points 200 miles away. The cost of keep per head decreases with the increased size of the herd. While it is commonly said that 5,000 head of cattle may be managed at an annual cost of $1.25 a head, a herd of 10,000 will cost no more than $1 or even 90 cents a head.

The obvious cheapness and safety in the management of large herds on the range, as compared with small ones, has led of late years to the formation of a number of companies, each with a heavy capital, and owning herds numbering thousands.

In some instances these companies were formed by the consolidation of the interests of several herd owners, for the purpose of cheapening the cost of keeping the cattle and taking other advantages in managing large herds; in others, men owning large herds sold them, in whole or in part, to incorporations. During the past few years a great deal of foreign capital has been invested in the stock companies engaged in cattle raising in Wyoming.

While much of the foregoing matter has reference to the conduct of the cattle business by men handling a capital of $150,000 and upward, men of moderate means have abundant opportunity to begin cattle-raising in Wyoming. It is true that a man having but 1,000 head of cattle ranging with herds numbering 10,000 will be at much greater proportionate expense and trouble than will they. But it is a custom with some owners of large herds to permit a few hundred head to graze with their cattle, and to take charge of them and round them up on payment of an annual sum per head, generally $1.

The foregoing refers more especially to the open unrestricted range system in such general use. As the ranges become more crowded the practice of having a winter and a summer range apart from each other will become more common, even if the two be 100 miles or more apart.

There are many summer range locations freely open to the first comer simply because they are liable to heavy snow-storms, or do not afford the necessary shelter and other advantages necessary for winter ranges.

The grade of cattle in Wyoming has been very greatly improved during the past few years, and the average intrinsic value of present herds is about $10 per head higher than three to seven years ago.

In consequence of the improvement of their herds and to provide against some of the inconveniences of the open-range system, such as securing open water in winter (probably four times as many cattle die for want of water as for want of food), to insure better care for the weak, and to get the advantage of one's own high-priced, fine-bred bulls there is a growing disposition on the part of many cattle-breeders to handle smaller herds, and keep their cattle separate from others inside of fenced inclosures. Very large tracts of railroad land have been purchased during the past two years for this purpose, and although the stock thrives well on winter grazing alone, the stock-grower of this class has large meadows, mountains of hay, and he watches and cares for his cattle very much after the fashion of the cattle-breeders of the Eastern and Middle States. Success has attended efforts in this direction, as it has always done the intelligent efforts of those investing in the free-range system.

The cattle business of Wyoming is flourishing and promising, and there is yet room for the investment of much capital and the employment of many men.

SHEEP.

Sheep-growing requires greater care and watchfulness than does the rearing of horses and cattle, and is, consequently, unpopular; but it is a very profitable business, when, by close attention, losses from storms,

disease, and accidents are avoided. The increase is more rapid than with the larger animals and they produce an annual clip of wool and furnish the carcass besides.

Sheep husbandry admits of a commencement with very much less capital than with horses or cattle, but the larger capital brings a larger percentage of profit, as in all live-stock investments on the plains.

Nearly all the grazing lands of Wyoming are adapted to sheep-growing, and the Territory contains at the present time about 1,000,000 head, but this number is small compared with the field, and shows a slower ratio of increase than that recorded of horses and cattle.

The demoralized state of the wool and woolen goods market, and consequent low prices the past few years, have doubtless prevented the more rapid growth of this industry.

Very little loss is sustained on account of disease. The dryness of the soil not only prevents the foot-rot, so common East, but sheep affected with it when brought here are readily cured, in fact speedily recover without applying any remedies. The only contagious disease known here is scab, and this with proper care never kills, and is readily cured.

A gentleman who has spent many years in the business, offers the following facts touching the usual mode of procedure in stocking a ranch in a quite moderate way, together with the profits of such an enterprise.

The smallest number with which an economical beginning can be made is 1,500 head. It will cost no more for improvements and help to manage this number than to manage 1,000. The beginner will carefully select his range with reference to feed, protection from storms, water, and meadow land. If he would commence with 1,500 head of Mexican sheep his improvements—cabins, corrals, &c.—need not cost him over $500. He will buy picked white yearling ewes of the desired number at about $2 per head, delivered on his ranch, locating them late in October, care having been taken to put up a few tons of hay.

Many flocks go through the entire winter without a particle of any feed but grass, but the provident husbandman will put himself on the safe side. To the desired number of ewes he will add merino bucks in the proportion of one to fifty ewes. These will cost him about $15 to $20 per head. The whole flock will require but one shepherd. The increase will amount to about 85 per cent. of the whole number, and will be worth to him about twice as much per head as the original flock. The shearing will cost him 6 cents per head, incidentals included. The yield of wool from the Mexicans will be about 2 to 3½ pounds in "the dirt"; from the bucks, about 15 pounds per head. The profits will of course depend on the market price of the wool clipped. During the past year the Mexican wool has brought 12 cents per pound; product of the first cross, 20 cents. The gentleman referred to assures me that on a flock of 1,500 sheep, purchased as above and managed on shares, the contractor incurring all the expense for improvements and equally dividing the product and the increase, he had netted 60 per cent. per annum, or 180 per cent. in three years.

To make the whole matter more clear, I give the following restatement of the cost and profits of establishing and managing a ranch with 1,500 head of sheep during a term of two years.

The loss allowed on following statement (10 per cent. per annum) is much larger than will occur from disease or natural deaths, but it has been found necessary to add something to natural losses on account of accidents that occasionally occur in severe winter storms:

First year.

Cost of improving ranch	$500 00
Cost of 1,500 picked white yearling and 2-year old Mexican ewes, at $2	3,000 00
Cost of 30 Merino bucks, at $15	450 00
Cost of hay that may be used	100 00
Cost of incidentals	25 00
Pay of herder, at $25 per month	300 00
Board of herder, at $10 per month	120 00
Cost of shearing 1,350 head (original 1,500—less 150 lost), and 30 bucks, at 6 cents per head	82 80
Interest on above amounts, at 12 per cent	549 34
Total cost, expenses, and interest	5,127 14

State of account at end of first year.

Value of 1,350 two-year-old ewes, at $2.25 each	$3,037 50
Value of 30 bucks	450 00
Value of improvements	500 00
Value of clip from 1,550 Mexicans (3 pounds per head), at 15 cents	607 50
Value of clip from 30 bucks (15 pounds per head), at 15 cents	67 60
Value of the 85 per cent. increase (1,275, at $1.25)	1,593 75
Total inventory	6,256 25
Deduct cost, expenses, and interest on investment	5,127 14
Profit end of first year over and above 12 per cent.	1,129 11

State of account at end of second year.

Value of original Mexicans, reduced by loss to 1,215 head, at $2.25		2,733 75
Value of Merino bucks, now 50, at $15 each		750 00
Value of 1,147 cross yearlings (1,275, less 10 per cent. loss), at $2.50 per head		2,867 50
Value of improvements		750 00
Value of clip from 1,215 Mexicans (3 pounds each), at 15 cents		546 00
Value of clip from 50 bucks (each 15 pounds), at 15 cents		112 50
Value of clip from 1,147 grade yearlings (6 pounds each), at 21 cents		1,445 22
Value of 1,034 lambs (85 per cent. of 1,215), at $1.25		1,292 50
Total inventory		10,498 22
From this deduct:		
Cost of 23 additional bucks, at $15 each	$345 00	
Cost of additional improvements	250 00	
Labor	450 00	
Hay	100 00	
Cost of shearing 2,412 head, at 6 cents	144 72	
Interest on inventory end of first year, $6,256, at 12 per cent	750 75	
		2,040 47
End of second year's business		8,457 75
Deduct first year's inventory		6,256 25
Second year's profit above 12 per cent., compound interest		2,201 50

The above table is computed from a start in Mexican ewes, as in early days we had to depend largely on New Mexico for our supply of ewes for breeding; but at the present time there are plenty of first-class high-graded Merino ewes that can be purchased for about $3 per head that will shear 5 to 6½ pounds of wool (in the dirt), worth 18 to 25 cents per pound, which will pay a larger percentage than an exhibit based upon Mexican sheep.

It can readily be seen that the third and fourth years and each successive year will grow more profitable as the young graded sheep mature and the flocks increase in size. The larger the flock or number of flocks under one management the less expense per head for taking care of sheep. Two thousand to 3,000 will as well range in one band with one herder as 1,500 will. Again, when a large number is under one management the flocks can be so selected that each size and sex can run together, the hardier taking the outside and most exposed ranges and the weaker can be kept together on richest ranges.

ANGORA GOATS.

The Angora goat is a native of Asia Minor. The first importation was made about 1830. The fleece of the Angora is mohair, from which some of the finest and most durable fabrics are made, such as cloth for upholstering, cloaks, mohair plush, &c. It is also valuable for braids for cloaks, coats, and other garments, because it holds its color so remarkably well.

Wyoming being about the same altitude as Asia Minor, this valuable animal flourishes as well here as there. However, their raising has not been as successful as it might have been, because the Angora goat is

bred in Wyoming by crossing with the common goat, instead of breeding from the pure imported stock.

Here they have bred the male offspring of imported Angora bucks on native ewe goats with native American ewes; hence the grade of these goats has deteriorated in carcase and in quality and quantity of hair.

Four years ago there were some 6,000 Angora goats in the Territory, but to-day there are not more than 4,000. This decrease has been caused by the inexperience of the breeder, as herein shown.

Col. Gustave Schnitger, of Albany County, Wyoming, who has been breeding Angora goats the past four years, and has a flock numbering about 1,100, writes as follows:

The wool or hair brings about 40 to 50 cents per pound; the annual increase from ewes is 90 per cent.; price per head for picked ewes, $8; bucks are worth $100 each; goats can be had either black or white.

The following table gives approximate expense and profit:

Cost of 1,000 ewes, two years old, seven-eighths bred	$8,000
Cost of 20 strictly full-blood bucks	2,000
Cost of 25 tons of hay, at $5 per ton	125
Cost of one herder for one year	300
Cost of one man during kidding (one month)	25
Cost of shearing 1,020 goats	96
Cost of incidental expenses	125
Total	10,671

State of account at the end of first year.

1,000 ewes, three years old	$8,000
20 bucks	2,000
Increase, 900 kids, at $5 each	4,500
3,000 pounds of mohair, at 40 cents per pound, net	1,200
160 pounds of mohair from the bucks, at 50 cents per pound	80
Total	15,780
Deduct above total	10,671
Profit	5,107

The bucks must be bought of a strictly honest breeder.

If the goats are bred up to fifteen-sixteenths, they will shear 4 pounds apiece, at 50 cents per pound; a fifteen-sixteenths wether, two years old, shears from 5 to 6 pounds of mohair, at 50 cents per pound. The meat is far superior to mutton, provided the people will overcome their prejudice against goat meat.

HORSES.

Horse-breeding is becoming a very popular branch of live-stock business in this Territory, and the number has increased with greater ratio the last two years than ever before.

The horse is the hardiest animal of them all, and the percentage of loss is merely nominal. No snow is so deep that he cannot paw his way down through it until grass is reached; and having found it, he cuts it closer to the earth than other stock, and where cattle would starve he obtains a feast. Again, in localities where water is scarce and many miles between streams, horses find no difficulty in trotting out far enough from water to obtain fresh range, returning at will.

As no winter food, except pasturage, is necessary here for growing horses, and the lands of this country are cheap, there can be no valid reason offered why this Territory should not compete successfully with all the world in horse-raising.

The following is from the pen of Hon. N. R. Davis, who has been engaged in horse-breeding in this Territory for a number of years:

The breeding and grazing of horses may be styled the coming industry of Wyoming. As the water and meadow lands are rapidly being settled and fenced throughout the southern part of the Territory, great tracts of grazing lands become unfit for cattle ranges for lack of water or the obstruction by fence to the drift of cattle in winter storms, and these old cattle ranges are now being largely stocked with horses, the fact being recognized that a horse does not require much room to drift in a storm, the shelter of hill or bluff being all he requires in the severest weather, when cattle must either move with the wind or perish.

The demand for horses for saddle use on the range is very large; there is a ready sale in the spring of the year for three and four year old colts broken to saddle at from $55 to $75 in lots of twenty to fifty head. There is good demand for driving horses of 15 to 15½ hands, in pairs, broken suitable for buckboard or buggy teams, at $250 to $350 per span, and for work horses weighing 1,100 to 1,400 pounds, at from $150 to $300 each. At present the supply is not equal to the home demand. Some experiments have been made in shipping horses raised in Wyoming to Eastern markets, which have met with fair success, and so soon as our supply is in excess of the home demand, and our grade of stock be brought up by the use of the best stallions, buyers will come to us from the East who will buy our colts by the car load at three year's old. The soundness of our horses and their greater lung power will make them favorites in the Eastern markets. It is a well known fact that a sound horse is the exception in the States, while here unsoundness of all kinds is very rare in home-raised horses, and their feet are almost invariably good.

Improved horses on our ranges which have been furnished with well-bred stallions are valued at from $60 to $100 per head, including the stallionr. Stock horses, in bands of from 100 to 500 head, driven from Texas, Oregon, Idaho, or Nevada, may be bought at from $30 to $50 per head, the price varying according to the quality of the stock.

The breeds of stallions most used are the Norman, the trotting horse, and the running horse, each kind having its advocates who claim it to be the best adapted for the range and to produce the most salable colts. There are many first-class stallions of each kind now in use, no expense having been spared to get the best. Their progeny must largely increase the reputation of our stock when they go abroad.

The profits of horse-raising are affected so largely by the judgment of the owner in buying his first stock, and in the selection of his stallions, and in the economical management of his property, that it is almost impossible to say what the average profit is, but it is safe to say that with a good knowledge of horses and strict attention to the business there is no class of range stock which will so well repay the investment of a moderate capital, say $20,000. With ordinary success it will pay 20 per cent.; some men make much more, others less. The cost of raising a three-year-old colt will vary with the cost of mares and stallions and the size of the herd from $15 to $40, and breeding will cost from $10 to $15 more. This estimate allows for feed of stallions the year around and for feed of colts while breaking. At other times the colt is on the range and the mother is never fed. It is well established that horses, unless worked, do not require to be fed at any season in Wyoming, that they will subsist and do well on the range till they are from fifteen to twenty year's old.

Horse-breeding has in the past been overshadowed by cattle-breeding. The immense profits and the facility with which great sums of money could be invested and managed in the latter have caused most stock men to overlook the finer business, which required more care, skill, and judgment for its management; but many men whose means did not admit of an investment in cattle have tested the business and have invariably made money. But the cattle range must from its nature always be on the frontier. Like the old-time trapper and hunter, it follows close to the Indian as he retreats from civilization. Horses present too many temptations to the red man to be safe on the outer edge of the settlements, but they will make use of the abandoned cattle ranges for many years to come.

MULES.

What has been said of horses will apply to the raising of mules. Some very choice stock has been shipped out to the Eastern markets, the prices received netting on the home range about $125 each for three-year olds, $100 each for twos, and $75 to $85 each for yearlings, all unbroken.

GOATS.

A few of the ordinary goats are found in Wyoming and they grow and thrive almost "spontaneously," but they attract but little attention, the interest of stock growers being centered on the nobler animals.

SWINE.

Hogs are only raised for home consumption, and not nearly enough for that. The future development of agricultural interests will no doubt greatly increase the number.

AGRICULTURE.

The cultivable area of Wyoming is estimated at over 8,000,000 acres. Nearly all agricultural crops natural to high altitudes are readily produced if irrigation is resorted to for sufficient moisture. Wyoming is situated within what is known as the "arid region." In some seasons, however—say, one year in three, on an average—the natural rainfall is sufficient to produce a splendid growth in grains and vegetables, but without irrigation ditches and some reliable supply of water a crop cannot be depended upon, except along the bottom land near natural streams. The lands are easily broken and cultivated, being generally free from stones and other obstructions.

THE SOILS.

The rock formations underlying the plains and lapping upon the mountains of Wyoming are of the proper character to produce fertile soils—sandy loams on the plateaus, benches, and mountain slopes, and heavier loam in the valleys, are in general the soils of the Teritory.

The alkali soils, so barren to look upon, where unimproved, are rich in elements of fertility, and readily yield to productiveness when irrigated. Many localities which show nothing but sage-brush and greasewood (*Sarcobatus vermiculatus*) grow the heaviest crops when water is sufficiently applied.

CROPS.

Wheat, rye, barley, oats, alfalfa, clover, timothy (in fact, nearly all the grasses), potatoes, and other root crops, and all the garden vegetables succeed remarkably wherever there is water for irrigation, and are of excellent quality. Corn also grows well, and will mature with certainty in some of the lower altitudes of the Territory. Wheat yielding 40 to 60 bushels to the acre, barley 40 to 50, and oats 40 to 75, are common crops, while potatoes weighing 2 to 5 pounds each are the rule rather than the exception, and cabbages, squashes, and pumpkins too large to go into the head of a barrel are not uncommon. Small hardy fruits grow to perfection, and the larger and more tender ones will grow and thrive if extra care be given them. Probably no country is better adapted for the growth of alfalfa than Wyoming.

The Territory does not at present grow farm products enough to support her own population, but this is because of live-stock growing and other pursuits seeming to offer larger profits, rather than the lack of favorable conditions for agricultural pursuits.

AGRICULTURAL LOCALITIES IN WYOMING.

Look at the map, select any stream, and you have agricultural lands along its banks. Along some of the streams the banks are high and

steep and only a narrow strip is available, but in other cases the bottom near the stream is wide and the bench land or second bottom, a few feet higher than the water, extends many miles back on either one or both sides, and water taken out of the streams can be carried in ditches along the bank until it reaches a point where it will overflow these bench lands.

As nearly all the streams have a rapid fall, or, at least, very much more than necessary to cause water to flow, and the lands slope from the head toward the mouth of the stream with about the same fall as the bottom of the stream, in some cases water is taken very far away from the stream, and some of the ditches are 50 miles long or more.

The newer northern counties of Johnson, Fremont, and Crook are giving more attention to the growing of cereals and vegetables than their older neighbors along the southern line. With better railroad facilities, these northern counties would very soon become extensive agricultural districts, and this surplus would find outlet in all directions.

IRRIGATION.

As already stated in foregoing pages, irrigation is what Wyoming depends upon as an all-important factor in agricultural pursuits, as well as for improvement of her pastoral resources. Many thousand miles of private ditches have been constructed of which no record is kept, and of which we only learn as we ride over the country and see them, but there are very many larger ditches built by corporations, formed by farmers and stockmen clubbing together, a list of which I introduce. Where the lands lie high above the level of the streams opposite them, the water must be taken from the stream a long distance above, also where broad, high plateaus are distant from water long ditches must be constructed. In consequence of this, irrigators "pool their issues" and work together for the greatest good. It will be observed that while the first filing was made in 1870, all but nine of the filings are within less than five years, and nearly all were made inside of the two years last past.

List of incorporated ditch companies, according to the filings with the secretary of Wyoming Territory.

Date incorporated.	Name.	Capital.
1870.		
July 9	The Wyoming Ditch and Water Company	$12,000
1871.		
Mar. 27	The Laramie Water and Ditch Company	10,000
1874.		
Sept. 13	The Laramie Water and Ditch Company	10,000
Oct. 1	The Albany County Ditch Company	100,000
1875.		
Apr. 28	The Big Laramie River Water Company	500,000
1878.		
July 27	The Evanston Ditch and Water Company	4,000
1879.		
Apr. 22	Pioneer Canal Company of Albany County Wyoming	10,000
June 19	Laramie River Ditch and Water Company No. 1	300
Aug. 15	The Rocky Mountain and Bear River Ditch Company	10,000
1881.		
Jan. 8	Union Ditch and Water Company of Albany County, Wyoming	100,000
June 14	The Jack Creek Irrigating Company	1,000
Dec. 23	The Utah and Idaho Land and Irrigation Company	100,000
1882.		
Jan. 25	Hurlbut Creek Ditch Company	400
Jan. 25	The Upper Goose Creek Ditch and Irrigating Company	5,000
Mar. 8	White and Jackson Creek Ditch Company	500

List of incorporated ditch companies, &c.—Continued.

Date incorporated.	Name.	Capital.
1882.		
Apr. 3	Big Piney and Prairie Dog Ditch and Tunnel Company	$3,000
Aug. 14	Trabing Creek Ditch Company	400
Aug. 21	North Piney and Prairie Dog Irrigating Canal and Tunnel Company	1,500
Aug. 23	The Wyoming Five Mile Ditch Company	5,000
Nov. 13	Upper East Side Goose Creek Ditch and Irrigating Company	1,500
Dec. 9	Chugwater Ditch Company	2,000
Dec. 11	East Side Ditch and Irrigating Company	2,000
Dec. 16	Rawlins Artesian Well and Water Company	60,000
1883.		
June 18	Hellman Ditch and Irrigating Company	30,000
Aug. 10	Wyoming Development Company	1,000,000
Aug. 21	Rutledge and Hellman Ditch Company	30,000
Sept. 22	The North Platte Irrigation and Ditch Company	6,000
Oct. 3	Goshen Hole Ditch Company	300,000
Oct. 5	McKuen Ditch and Reservoir Company of Wyoming Territory	25,000
Oct. 12	The North Platte Irrigation and Ditch Company	6,000
Nov. 1	Little Horse Creek Irrigating Company	10,000
Nov. 29	Bordeaux Ditch Company	45,000
1884.		
Jan. 15	The Deer Creek Canal and Improvement Company	50,000
Jan. 19	Prairie Dog Water Supply Company	3,000
Feb. 18	The Sherman and Wood Ditch Company	3,000
Feb. 28	The Horseshoe Creek No. 1 Ditch Company	1,800
Mar. 10	Springvale Ditch Company	5,000
Mar. 22	The Lodge Pole Ditch and Reservoir Company	15,000
Apr. 10	The Gordon Ditch Company	10,000
Apr. 22	Clear Creek Land and Ditch Company	50,000
Apr. 25	The Crow Creek Ditch and Reservoir Company	15,000
Apr. 26	Calland and Culver Ditch Company	10,000
May 9	The Phillips Ditch Company	1,000
May 20	The South Side Ditch and Reservoir Company	15,000
Aug. 26	J. H. Gordon Ditch Company	50,000
Aug. 30	The Cloud Peak and French Creek Ditch Company	5,000
Oct. 1	Beavers' Dam Ditch Company	15,000
Oct. 4	The Organ Ditch Company	15,000
Oct. 13	Bear Creek Ditch Company	10,000
Nov. 12	The North Lodge Pole Ditch and Reservoir Company	15,000
Dec. 22	The Whitehead Ditch Company	28,000
1885.		
Jan. 23	The North Platte Irrigation and Ditch Company	6,000
Feb. 14	The Rawhide Irrigating Company	10,000
Feb. 27	Little Medicine Bow and Richard Creek Irrigating Ditch Company	15,000
Feb. 28	The Payson Hutchinson Ditch Company	15,000
Mar. 10	Mead Creek Ditch Company	4,000
Mar. 16	The South Spring Creek Irrigation Company	10,000
Mar. 25	Ontario Water, Ditch and Irrigating Company	10,000
Mar. 27	Goshen Hole Irrigation Company	1,000,000
Mar. 28	The Little North Fork Ditch Company	6,000
Apr. 3	South Clear Creek Ditch and Flume Company	
Apr. 4	North Laramie Ditch Company	20,000
Apr. 9	Big Goose and Soldier Creek Ditch Company of Johnson County and Wyoming Territory	30,000
Apr. 11	The Piney Prairie Dog and Mead Creek Irrigating Company	6,000
Apr. 18	The Wisconsin Land Cattle Ditch Company	150,000
Apr. 20	North Crow Ditch Company	10,000
May 8	The Four Lakes and French Creek Ditch and Flume Company	5,000
May 28	The Lake DeSmet Ditch Company	25,000
June 18	The Central Ditch Company	100,000
Aug. 3	The LZ Ditch Company	
Aug. 5	The Willow Creek Ditch Company	
Aug. 5	Hillsdale Irrigating Company	25,000
Aug. 8	Agricultural Ditch Company	10,000
Aug. 31	The Rawlins Improvement and Water Company	10,000
Aug. 31	LaBonte Ditch Company	10,000
Sept. 1	Wagon Hound Ditch Company	50,000
Sept. 5	Tongue River Ditch Company of Johnson County, Wyoming Territory	3,000
Oct. 5	Muddy Creek Ditch Company	10,000
Oct. 7	Hereford Home Ditch Company	20,000
Oct. 12	Bates Creek Irrigating Ditch Company	9,000
Oct. 12	The Bresinham Ditch Company	
Oct. 13	LaPrele Ditch Company	10,000
Oct. 16	Big Goose and Beaver Ditch Company	16,000
Oct. 17	The Maverick Ditch Company	10,000
Oct. 21	Big Horn Ditch Company	50,000
Oct. 29	The Willow Creek Ditch Company	20,000
Oct. 30	The East Beaver Ditch Company	20,000

Regarding one of the largest of these irrigation corporations, the Wyoming Development Company, which has its headquarters at Cheyenne, and whose ditch and lands lie just northwest of that city, the following has been written by an eastern man who lately visited the locality:

The great experiment in the redemption of desert land by irrigation which is now going on in Wyoming is calculated to strengthen popular faith in the triumph of man over natural obstacles. The limited rainfall of the Territory has hitherto prevented the development of agriculture, but the fertility of the land when supplied with water has shown that there was no insuperable difficulty in the poverty of the soil. Some enterprising men, therefore, concluded two years ago to make a thorough experiment on a great scale of utilizing the water which runs largely to waste in the rivers, and decided to irrigate a tract of arid land, consisting of some 60,000 acres of fine, sandy loam, which extends north and south of the Sabille, a small tributary of the Laramie River in the southeastern part of the Territory. The enterprise involves taking water from the Laramie by a ditch—which must soon be carried in a tunnel—8 feet square blasted through the solid rock for a distance of more than half a mile, after which the bed of a creek will be utilized as a water-way for 15 miles, and then that of the Sabille for 23 miles more. From this point in the Sabille a ditch will strike off across country for 27 miles, while another similar ditch will be carried from the stream at a point some 20 miles farther on, and lateral ditches will be cut from both these canals and from the Sabille itself for an aggregate distance of at least 200 miles. An average fall of about 62 feet to the mile from the start at the Laramie River not only insures easy flow for the water, but will permit the formation of artificial lakes with water power sufficient for mills, and the district is expected to sustain a town of 1,000 inhabitants with a tributary farming population of 3,500. The tunnel is, of course, the hardest part of the job, but it is more than half completed, and it is expected that the whole project will be carried through by next May, at a cost of half a million dollars. Sufficient experiments with irrigation have been made in Utah to justify perfect confidence in the success of the enterprise, and there is no doubt that large areas of land once considered absolutely worthless will thus be converted into productive farms.

Irrigation is much more reliable than rain-fall in the production of crops, as the irrigator can regulate the moisture according to the necessities of each crop he wishes to grow and according to the soil he wishes to treat. Very much larger crops are obtained under irrigation than to depend upon the natural supply of moisture and with greater certainty, and the quality of the crop is much better. Oats raised in this manner weigh from thirty-eight to forty-eight pounds to the bushel, as against thirty-two pounds, the regular standard, raised without irrigation. The farmer who becomes accustomed to irrigation seldom returns to farm in localities where irrigation is not practiced. The water supply is exceedingly reliable as they have their source high up the hills and mountains where living spring abounds, and where in most cases the snows of winter are melting during the entire summer.

The water coming down from the mountains and higher plateaus is freighted with fertilizing materials derived from the decaying vegetation and soils of those upper regions, which are spread by the flowing water over the cultivated lands. Reservoirs can be made in the many natural depressions or basins in which to store all surplus water during the entire year, so that very small streams can in that way irrigate large tracts lying below such reservoirs.

The possibilities of Wyoming as an agricultural country under the intelligent use of its waters for irrigation can scarcely be comprehended.

ARTESIAN WELLS.

The last legislature passed a law enabling each county to appropriate $3,500 for the purpose of boring artesian wells.

Some of the counties have availed themselves of the enactment, and have obtained an abundance of pure water, and other counties are engaged in sinking wells at the present time.

The Union Pacific Railroad Company have a number in use, and have bored several that cannot be used on account of the water being strongly impregnated with minerals, sulphur, &c.

A number of live-stock growers have bored rock wells to a depth of from 100 feet to 400 feet, drawing the water to the surface with windmills and storing in large tanks for their stock. This mode of providing water for domestic animals will utilize the high, dry divides between and far away from streams of water.

TIMBER FOR DOMESTIC USES.

Referring to the chapter on "The Flora of Wyoming," the growth, species, and extent of its timber are noted in general terms.

As a product for economic uses, it constitutes an important part of the natural wealth of the Territory. Within its areas of between ten and fifteen million acres of forest, timber for lumber abounds to a vast extent. There are, perhaps, not over twelve States and Territories that exceed Wyoming in this valuable product. The main mountain ranges of the western, northern, and central portions of the Territory are covered, and some of them densely covered, with timber, some pine trees measuring as large as three feet in diameter. What is said elsewhere of the manufacture of lumber in all its forms, in the sketch of Johnson County, will equally apply in nearly all localities of the Territory.

MANUFACTURES.

Wyoming's development in manufacturing interests is far behind that of her other industries. That the field is good none can deny, but more railroads and cheaper transportation are wanted before great progress can be attained in some of the most promising branches; nevertheless each succeeding year shows some advancement and gain in the manufacturing interest.

Albany County has rolling-mills, machine-shops, and soda-works; Carbon County has paint-mills; Crook and Fremont Counties have flouring-mills planned or in process of construction; Johnson County has flouring-mills in successful operation; Laramie County has manufactories of carriages and wagons, harness and saddles, guns, jewelry, cigars, iron castings, and numerous other commodities; Uinta and Sweetwater Counties manufacture lumber, lime, and charcoal, as, in fact, do all of the several counties enumerated. Brick are made in nearly every town; also the brewing of beer, &c.

A glance at the article in this report detailing the "natural resources" of the Territory will give some idea of the possibilities of manufacturing.

A gentleman of rare judgment, living outside of Wyoming, gives the results of his observation, after many months exploring, as follows:

In Wyoming, as in other Rocky Mountain Territories and States, there exist hundreds upon hundreds of germs which at no very distant day will give life to the grandest of manufacturing enterprises and make new cities quiver with proud activity.

Nature paved the way along the western ranges for the sway of the forge, the shuttle, and the loom as she never paved it in the older States and worlds. The resources of iron, coal, lumber, and wood have always been among the first to enlist the attention of careful investors, and have yielded such men wealth and place, while they

have clustered about them new interests, new dependencies, and incalculable prosperity.

Iron ores which rival the metals of Michigan and Missouri, forest productions second to those of no State, and pasturage soon to produce its millions upon millions in wool, hides, and meat, are among the incentives offered here, while for their profitable utilization are numberless well-distributed and unexcelled water powers, vast deposits of the finest coals, and already a market eager to consume a large home product. The very center and dome of the continent, Wyoming pays constant tribute to either the mills, foundries, and machine-shops of the far East or else to the smelters of the West and South. Railroads are not always modest in their charges upon our productions, which only journey far toward the rising sun to again return in due time—once more well levied for transportation—manufactured into staple articles.

It is a broad assertion, but a true one, that a few of the Eastern States are to-day swallowing the major part of the results of our best Western enterprise and energy, with the inevitable sweep of a grand industrial maelstrom.

RAILROADS.

When we consider the development that has taken place since 1867, when Wyoming had no name, little or no white population, its mineral wealth undeveloped, its great live-stock interests in their infancy, the cities of Cheyenne and Laramie unborn, the present Territory being then a part of Dakota (whose capital was nearly a thousand miles distant), and this portion without rail communication with the rest of the country, we cannot deny that the Union Pacific Railroad was the principal factor in the development of our Territory by giving it an outlet and inlet to the markets and capital of the country; in fact, it made Wyoming possible.

But the Territory has outgrown the Union Pacific Railroad, and the present pressing need of Wyoming is for more railroads.

Should the Union Pacific add to its main line and present branches two or more branches to the northward, they would serve as valuable and profitable feeders for the main line, and would assist very greatly in developing Central and Northern Wyoming.

The Territory presents an inviting field for railroads, and the near future should witness great activity in their building.

The Wyoming Central Railway Company have recently filed their certificate of organization with the secretary of the Territory and have commenced work within our borders. This line is understood to be an extension of the Chicago and Northwestern Railway, whose apparent intention is to traverse the entire length of Wyoming from east to west; this will add very materially to the resources of our Territory.

There are many other projected railroads, some of which will, undoubtedly, be built soon; these lines will pay the promoters and greatly enrich Wyoming.

TELEGRAPH.

Telegraph lines run along all railroads, also from Cheyenne across the country to Forts Russell, Laramie, Fetterman, and McKinney, and from Fort Laramie to Hat Creek, and to Custer and Deadwood in the Black Hills of Dakota, just across the line from Northeastern Wyoming; also from Hat Creek to Fort Robinson, in Nebraska, and from Fort Laramie to Fort Robinson; also from Rawlins to Fort Washakie, and from Rawlins south into Colorado and the White River country.

TELEPHONES.

Nearly every town of considerable size has a telephone exchange well patronized. Cheyenne, the capital, has some 200 subscribers, and

is connected by telephone with Laramie City, the county seat of Albany County. Many of the large stock ranches are connected with each other and with town by private lines; also places of resort with neighboring towns, as, from the Hot Springs of Saratoga, in Carbon County, to Rawlins, the county seat; from Fort McKinney to Buffalo, the county seat of Johnson County, &c.

NEWSPAPERS.

The newspapers of Wyoming now number 21. Four of the number are dailies, receiving the Associated Press reports, the remaining 17 being weekly journals. One of them is a live-stock paper; one is devoted to the interests of labor; one is a church paper, and the others are devoted to Territorial and local interests.

The following is the list of those now published in the Territory:

Name of paper.	How often published.	Where located.
Cheyenne Sun	Daily and weekly	Cheyenne, Laramie County.
Democratic Leader	do	Do.
Daily Tribune	Daily	Do.
Northwestern Live Stock Journal	Weekly	Do.
The Mirror	do	Do.
The Boomerang	Daily and weekly	Laramie City, Albany County.
The Sentinel	Weekly	Do.
Wyoming Tribune	do	Rawlins, Carbon County
The Journal	do	Do.
The Laborette	do	Do.
Rock Springs Independent	do	Rock Springs, Sweetwater County.
The Gazette	do	Do.
The Chieftan	do	Evanston, Uinta County.
The Evanston Examiner	do	Do.
Buffalo Echo	do	Buffalo, Johnson County.
The Sentinel	do	Big Horn, Johnson County.
The Sundance Gazette	do	Sundance, Crook County.
Wind River Mountaineer	do	Lander, Fremont County.

SCHOOLS.

Wyoming takes front rank in educational matters, considering her age as a Territory. There is a strong and growing interest on the part of her citizens which cannot fail to keep the public schools up to the standard of our older and wealthier neighbors.

The Territorial school laws, among other provisions, provide for a Territorial superintendent of public schools, appointed by the governor, and a county superintendent in each county, elected by the electors of the county. Each school district elects its trustees, three to six in number, at a "spring meeting," and none can vote who did not pay poll tax the fall previous. The law also provides for a "teachers' institute," which shall hold annual meetings at some point in the Territory (usually in different towns in rotation) for not less than six nor more than ten days each session. Every teacher or superintendent of public schools may attend, and their fare to and from the institute is paid by the Territory. When there are fifteen or more colored children within any one district, the trustees, with the approval of the county superintendent, may provide for a special school.

The law prohibits any discrimination, as to pay or otherwise, on account of sex, in employing teachers.

Although a compulsory law, with penalty clause, exists, obliging children from seven to sixteen years of age to attend school at least three months in every year, unless excused by physician's certificate or

by special excuse granted by the district board, yet not to exceed 65 per cent. of all the children are enrolled at public schools, because, first, in cities and towns many attend private, select, or parochial schools; and, second, outside the towns, where thinly populated, many families are so isolated from neighbors that schools cannot yet be established and maintained.

This last cause is rapidly improving with settlement.

The following are some public-school figures, taken by counties, for 1885:

ALBANY COUNTY.

School-houses in the county	8
Cost of same	$37,975 00
Schools taught	18
Pupils enrolled	739
Male pupils enrolled	377
Female pupils enrolled	362
Teachers employed	19
Male teachers employed	2
Female teachers employed	17
Average salary of teachers per month	$61 68
Aggregate amount paid teachers per year	9,609 60
Average cost of tuition per pupil per month	3 14
Amount raised	15,150 00

CARBON COUNTY.

School-houses in the county	11
Cost of same	$9,554 00
Schools taught	17
Pupils enrolled	676
Male pupils enrolled	336
Female pupils enrolled	340
Teachers employed	23
Male teachers employed	5
Female teachers employed	18
Average salary of teachers per month	$60 65
Aggregate amount paid teachers	7,190 95
Average cost of tuition per pupil per month	3 44
Amount raised by districts for school-houses and furniture	1,393 85

CROOK COUNTY.

[Lately organized.]

School-houses in county	13
Schools taught	15
Pupils enrolled	186
Male pupils enrolled	108
Female pupils enrolled	78
Teachers employed	15
Male teachers employed	5
Female teachers employed	10
Average cost of tuition per pupil per month	$4 22
Amount raised by taxation	6,000 00

FREMONT COUNTY.

School-houses	6
Schools taught	8
Pupils enrolled	188
Male pupils enrolled	121
Female pupils enrolled	67
Teachers employed	10
Male teachers employed	4
Female teachers employed	6
Average salary of teachers per month	$36 25
Amount paid teachers	2,101 00
Average cost of tuition per pupil per month	2 75
Amount raised to build school-houses	3,000 00

JOHNSON COUNTY.

School-houses in county	14
Pupils enrolled	304
Male pupils enrolled	160
Female pupils enrolled	140
Average cost of tuition per pupil per month	$4 44
Amount paid teachers per year	4,357 50
Amount raised from county tax	9,479 25
Amount now in treasury	4,000 84
Cost of school-houses and furniture	8,592 00

LARAMIE COUNTY.

School-houses in county	12
Schools taught	35
Pupils enrolled	1,014
Male pupils enrolled	489
Female pupils enrolled	525
Teachers employed	35
Male teachers employed	2
Female teachers employed	33
Average compensation of teachers per month	$54 77
Amount paid teachers	22,016 37
Cost of tuition per pupil per month	6 09
Value of school buildings	60,000 00
Amount raised for general fund	17,501 54
Whole amount raised	38,898 11

SWEETWATER COUNTY.

School-houses in county	5
Schools taught	7
Pupils enrolled	419
Male pupils enrolled	202
Female pupils enrolled	217
Teachers employed	10
Male teachers employed	3
Female teachers employed	7
Average compensation of teachers per month	$58 30
Amount paid teachers	4,122 25
Cost of tuition per pupil per month	2 54
Amount raised for building houses and furnishing same	575 00

UINTA COUNTY.

Schools taught	14
Pupils enrolled	808
Male pupils enrolled	420
Female pupils enrolled	388
Teachers employed	18
Male teachers employed	7
Female teachers employed	11
Average amount paid teachers per month	$65 38
Average amount of tuition for each pupil per month	2 18
Amount raised by districts for school-houses	2,000 00
Amount raised by districts for other purposes	1,500 00

At Cheyenne a convent building is now being completed at a cost of between $50,000 and $60,000, by the Society of the Holy Child Jesus; there are also two branches of Saint John's Parochial School in Cheyenne, with about 250 scholars and valuable school property; also a Kindergarten school with a few score of the younger children, and several private and select schools having from half a dozen to a score of scholars each.

At Laramie City the Sisters of Charity have an academy with 100 or more scholars, and appropriate school property of their own (they also

have an extensive hospital for the sick, at this place), and, as at Cheyenne, select and private schools are also taught.

Other places throughout the Territory have schools, other than public, according to size of the city or town.

CHURCHES.

Churches throughout Wyoming are numerous, well supported, and fairly attended. The time allotted me will not permit of assembling all the statistics nor space admit of their introduction here, but I insert the following brief extracts from reports kindly handed me by the pastors of the respective churches, and from information furnished by Rev. Dr. J. Y. Cowhick, retired. The list comprises only the churches at the Territorial capital, Cheyenne, but is a fair showing, comparatively, of the Territory, as to other cities and towns:

ST. MARK'S PROTESTANT EPISCOPAL CHURCH.

This church was organized in January, 1868. On the 14th day of July following, a church edifice was commenced; and on August 23 following, the structure was finished at a cost of $4,000, free of debt. St. Mark's rectory was begun July 6, 1869, and was finished the same year, the cost being $5,000. The Holy Communion was first celebrated March 1, 1868, with five communicants.

Since the organization, the parish has had eleven rectors; the present rector is Rev. George C. Rafter. The last annual statistics show baptisms, 34; marriages, 10; burials, 8; communicants, 78; Sunday-school, 82; amount of offerings, $4,038.15.

The rector and vestrymen are at present contemplating the erection of a new church edifice, and have secured an eligible site for the same. The cost of the building will be about $20,000, and it will have a seating capacity of about 350.

FIRST CONGRESSIONAL CHURCH OF CHEYENNE.

Organized June 13, 1869. Pastors: 1869 to 1871, Rev. J. D. Davis; 1871 to 1873, Rev. Josiah Strong; 1873 to 1875, no pastor; Rev. C. M. Sanders commenced in August, 1875, and is the present pastor.

The Sunday-school has enrolled about 300 members; average attendance, 160.

The first church building was dedicated November 14, 1869, and cost about $4,000; the second church building was dedicated March 12, 1884, and cost $21,500; it is a beautiful church structure, with all modern improvements, such as a furnace and fire-places for heating, incandescent electric lights for lighting, &c. The church also owns the "South Side Chapel," a small church in a distant part of the city.

SAINT JOHN'S CATHOLIC CHURCH.

This church is the oldest organization of any in the Territory, having commenced almost with the building of the first house in Cheyenne. A church building was commenced in the fall of 1867, and finished early the following spring. The first church building still stands, being now used for school purposes by the Sisters of the Holy Child Jesus. The new church is a spacious brick structure, worth about $25,000. The church has a large brick building, devoted to literary purposes, and it has also a fine brick parsonage. It has a cemetery of some 35 acres.

A weekly newspaper is published under pastoral control.

This church has a large library, and under its auspices is the Sisters' Academy, or Convent, already mentioned under the head of "Schools." This is the first young ladies' boarding school or academy in the Territory, and is one of its finest public buildings. The present Reverend Father in charge is F. S. Nugent.

A report sent to the Bishop on November 1 of this year shows 119 baptisms, 43 marriages, 11 conversions, 1,218 paschal communions, 49 first communions and 70 confirmations since the 1st day of January, 1885.

Connected with the church are a benevolent, temperance, literary, and altar society, numbering, respectively, 83, 60, 24, and 48 members. Among the young people are sodalities of the Blessed Virgin, Holy Angels, Holy Innocents, and St. Aloysius.

There are in the schools at present a daily attendance of 200 children.

THE METHODIST EPISCOPAL CHURCH OF CHEYENNE.

This church was organized in 1869 by Rev. Mr. Scott. The first building erected for church purposes is 36 by 54 feet in size. This building, although a very good one for the times in which it was erected, will be replaced next year by a handsome brick structure, 56 by 80 feet in size, with lecture-room, class-rooms, parlors, &c. The brick parsonage adjoining the church is a comfortable residence, and cost about $4,500.

The church membership at present is 108, and there are 138 names on the Sunday-school roll. Rev. D. L. Rader is the present pastor.

FIRST PRESBYTERIAN CHURCH OF CHEYENNE.

On April 29, 1869, Rev. John L. Gage arrived and organized congregation; October 15, 1869, Rev. H. P. Peck took charge, and July 21, 1870, a new church was dedicated, costing $8,000. February 1, 1871, Rev. W. G. Kephart took charge of the church. May, 1874, Rev. W. B. Reid took charge, and erected a seven-room brick parsonage. August 21, 1875, J. Y. Cowhick, D. D., became pastor when there were eight members in the church. In 1881, a new brick church was commenced, and was dedicated January 6, 1884.

This church has a large pipe organ for the church and a large reed organ for the parlors; it is also finely frescoed, and has 300 of the latest style of opera chairs, costing over $2,000; there are also good furnaces and the church is lighted with gas, &c.

The estimated value of property is $30,000; church membership, 136; children in Sabbath-school, 180. Rev. Richard E. Feld, the present pastor, took charge in January, 1885. Contributions of church during the year ending April 1, 1885, for current purposes and benevolent causes, $6,003.30.

FIRST BAPTIST CHURCH OF CHEYENNE.

The First Baptist Church of Cheyenne was organized September 21, 1877, under the missionary efforts of Rev. D. J. Pierce, and the successive incumbents have been, respectively, Rev. William H. Young, D. D., Rev. A. B. Banks, Rev. Geo. Brown, and the present pastor, Rev. Samuel J. Nunn. This body worship in a commodious brick structure, which has been lately refitted with steam-heating apparatus and electric light appliances. The church now numbers over 80 members and is in a flourishing condition. The Sunday-school is maintained with lively interest, as well as the missionary and outside work of the denomination.

SECOND BAPTIST CHURCH OF CHEYENNE.

The colored Baptists have been organized seven years, but erected no church building until 1884. The first Sunday in September of that year they held service in a new brick church, 26 by 38 feet in size, costing nearly $3,000, with Rev. Z. T. Thistle as pastor.

AFRICAN METHODIST EPISCOPAL CHURCH OF CHEYENNE.

This denomination has a new and commodious church building and a regular society, but statistics regarding membership, &c., are not at hand.

SCANDINAVIAN CHURCH OF CHEYENNE.

This church has an organization and owns an eligible church site, but no building. They intend building next season.

SOCIETIES.

Wyoming contains nearly all the fraternal, charitable, literary, dramatic, and other societies usually represented in older countries, and all seem flourishing. Among them are Masons, Odd Fellows, Knights of Pythias, Library Association (with many good libraries), Irish and other benevolent societies, Good Templars, Academy of Sciences, Arts, and Letters, Grand Army of the Republic, bicycle clubs, social and business clubs, fire companies, labor associations, &c.

The following statistics (1884) will give an example:

MASONS.

Lodges	6
Members	432
Chapters	4
Commanderies	2
Scottish rite lodges	2

(Membership of last three unknown.)

Value of property owned by Masons in Territory is estimated at $100,000.

ODD FELLOWS.

Number of lodges in Wyoming	13
Total membership	576
Amount paid for relief in 1884	$1,769 20
Cash balance and real estate investments estimated worth	45,000 00

Lodges are located at Cheyenne, Laramie City, Carbon, Rawlins, Evanston, Fort Laramie, Burnt Fork, Rock Springs, and Washakie.

Total revenue of subordinate lodges	$7,537 69
Number of brothers relieved during the year	37

KNIGHTS OF PYTHIAS.

Lodges in Wyoming	6
Total membership	375
Cash on hand June 30, 1885	$1,936 00
Investments	700 00
Value of real estate (Cheyenne)	14,000 00
Paid for relief of members during twelve months ending June 30, 1885	730 00
Paid one death during year	3,000 00

Lodges are located at Cheyenne, Laramie City, Rawlins, Carbon, Rock Springs, and Buffalo.

SOCIAL STATUS.

The formation and establishment of a new Territory with such varied material resources as Wyoming draws within its borders heterogeneous elements of society, all eager for gain, for wealth, position, and strength. In the conflicts each wages for selfish mastery. Fortune is fickle in the lavishment of its hand, and in its accumulation it often changes the methods of human effort.

Wyoming being traversed, before its organization, by the great pioneer continental railway—the Union Pacific—that road brought within the Territory, during its construction, adventurers, of all grades, who, to a greater or less degree, gave the various towns along its line unsavory reputations for a time; but, in the natural course of events, this rough element pushed on with the road after it had its brief day, and a new class of cultivated and enterprising young men from the Northern, Middle, Eastern, and Southern States came, and, with pluck, muscle, and brain, gave healthy life and business activity to the various industrial pursuits which give Wyoming its wealth and prosperity to-day. After becoming fairly settled in business, the unmarried first settlers returned to their old homes and brought back with them wives from the most cultivated and refined circles of Eastern society. Thus it is that the society of the cities and towns of Wyoming of to-day will vie with the best in any other cities or sections of the country in refinement, cultivation, hospitality, and social elegance. It is composed of people from every State and Territory in the nation, who, because of their cosmopolitical character, forget the prejudices which old home-associations may have engendered, and unite on a high plane of mental and social development.

Wyoming's people are social, cordial, liberal, and progressive; they live handsomely an "every-day," enjoyable kind of life, and they believe and practice the maxim, "Live and let live."

WOMAN SUFFRAGE.

The first legislative assembly of Wyoming, held in 1869, conferred upon woman the right to vote, under exactly the same privileges and restrictions that apply to men. The succeeding legislative body, at its session in 1871, made an unsuccessful attempt to repeal this enactment. Since that time no effort whatever has been made to disturb it, the original act still remaining on our statute-books.

Since 1871 six different legislatures have assembled and adjourned without the introduction of a single bill affecting woman suffrage. Politics seem to have had no bearing on the measure, for it has remained the same whether the legislature had a large majority of Democrats or Republicans, or whether evenly divided.

Without argument, these facts show that the men of Wyoming are favorable to woman suffrage, as the women surely are.

It is also noticeable that the men and women of Wyoming are equal in property rights; the married woman need not sign a deed with the husband, nor a man with his wife, unless the property be their homestead. The husband and wife own property, and buy and sell, as independently of each other as if they were not related.

The distribution of property is identical where either dies intestate, the surviving husband or wife receiving one-half, and the children one-half, or, if there are no children, the survivor inherits all, should the estate not exceed $10,000, or three-quarters of the entire estate when worth above that sum, the residue going to next of kin. Thus it will be seen that the gallantry of Wyoming's first legislature has been duly respected, and even improved upon by its successors, and it can be asserted without fear of contradiction that Wyoming appreciates, believes in, and indorses woman suffrage.

WYOMING'S EXHIBIT AT NEW ORLEANS.

This Territory is represented at the New Orleans Exposition by many of her products and curiosities. Hon. Homer Merrill is the commissioner from Wyoming. The visitor at New Orleans will find much of interest in the exhibit offered by this Territory.

THE PUBLIC DOMAIN.

In Wyoming, by fulfilling the requirements of the land laws, a male citizen may take up the following number of acres:

	Acres.
Under the homestead act	160
Under the pre-emption act	160
Under the timber-culture act	160
Under the desert-land act	640
Total	1,120

By the first three acts land may be taken up in 40-acre tracts, and under the desert-land act a tract a mile and a quarter long may be filed

upon, provided it is in compact form and does not contain over 640 acres. A married couple, the wife being able to enter 640 acres under the desert-land act, can get possession of 1,760 acres, sufficient to support several hundred head of cattle.

There are United States land offices at Cheyenne and Evanston.

The rapidity with which the public lands in Wyoming are being taken up by settlers is shown by the following table, taken from the records of those offices:

CHEYENNE AND EVANSTON.

	Year.	Acres.
Homestead, timber, and other entries	1873	3,698.71
Do	1874	4,022.32
Do	1875	26,039.18
Do	1876	4,974.41
Do	1877	8,151.75
Do	1878	8,639.15
Do	1879	13,069.20
Do	1880	17,336.69
Do	1881	13,350.50
Do	1882	22,938.25
Do	1883	79,044.04
Total		201,264.20

CHEYENNE.

	Year.	Acres.
Desert lands	1884	397,506.64
Pre-emption lands (coal included)	1884	*133,252.00
Timber-culture lands	1884	50,404.20
Homestead lands	1884	33,122.07
Mineral lands	1884	437.47
		614,722.44
Cash entries (largely new entries)	1884	23,680.26
Coal lands (included in pre-emptions)	1884	9,000.00
Desert lands	1885	†242,856.15
Pre-emption lands (coal not included)	1885	*†130,857.00
Timber-culture lands	1885	†60,120.85
Homestead lands	1885	†40,975.98
Coal lands	1885	*†15,400.00
Mineral lands	1885	†68.44
		490,278.42
Cash entries (largely new entries)	1885	28,679.65

*Estimated. †First ten months only.

This is certainly a most extraordinary exhibit. It will be noticed that all lands entered in both offices in 1873 amounted to but little more than 4,000 acres, and in the ten years from 1872 to 1883 all entries in both offices aggregated less than 125,000 acres. In 1883 there were entered in the Cheyenne land office alone a little less than 80,000 acres, and that increase was thought truly remarkable; but when, in 1884, in the Cheyenne office alone, *over* 614,000 acres *were recorded*, no words of surprise or comment could do the subject justice.

The entries of 1885 are running close, so far, to those of 1884.

There are many reasons for this activity in securing public lands; but the most potent one, and the one that doubtless caused the entries of at least *three-quarters* of the land in 1884, and very much of that of 1885, was the danger felt that Congress would abridge in some way the opportunities for the settler to obtain lands. The bills under considera--

tion in Congress during 1884 and 1885, providing for the repeal of the timber culture, pre-emption, and desert land laws caused very many who had yet some of their land privileges unused to hasten inordinately in making their filings. In fact, it created great excitement, and during the agitation settlers did not always take the necessary time to make judicious selections.

Assuming the motives of those in Congress who introduced and advocated these repeal bills to be the protection of the poorer classes, and to reserve homes for the deserving settler, I regret that Wyoming was not exempt from the application of such repealing strictures, which would surely mitigate against the poor in favor of the rich. There can be no doubt that such legislation would be unfortunate for Wyoming as regards her future settlement, and would be the severest blow possible to administer to the pioneers who develop that most material, substantial, and lasting interests of a new country—its agriculture.

In support of this it cannot be denied that the whole of Wyoming is within the arid region of America, and excepting the narrow bottoms along the streams agricultural crops cannot be produced, excepting grasses for grazing and an occasional spot where hay can be harvested, without irrigation. Without crops the pioneer settler cannot subsist, and the income derived from his 160 acres of desert land, under the homestead act, will in no wise support him and his family during the necessary years to earn title.

A man rich in this world's goods has no need for the benefit of the homestead privilege, and the poor man is unable to profit by it unless the land be productive. The expense of conducting water upon 160 acres is very nearly as much as upon ten times that amount, and the man who can add to the 160 acres—his homestead or pre-emption—640 acres more under the desert act, and, if married, 640 acres more for his wife; and if, where, by the aid of water, timber will grow, still another 160 acres under the timber law (which said timber will furnish fuel and shelter), that man has some encouragement to take water out of streams and conduct it upon his lands, reclaiming and rendering productive the entire tract. The person having sufficient land rights to make it profitable to conduct water upon his claims can obtain financial assistance in reclaiming his land, because he has "something in sight," and because in a comparatively short time he can effect title and own his realty, where with but little land and under a five-years' restriction he is seriously crippled.

To get water upon the land not abutting on streams, it is necessary to make long large ditches, and their expense precludes individual effort, unless large reward is promised in increased acreage of land. Combined effort, corporate or otherwise, makes it easy and profitable to construct large expensive irrigating canals, providing the accumulated land rights of all those interested give a large enough field for the economical handling of water. In nine cases out of ten 160 acres each would never interest men to reclaim land, where the present privileges, as to acreage, would induce the reclamation of large tracts.

He who makes two blades of grass where but one did grow is truly a benefactor, and is a friend to our Government, as well as to mankind in general.

Taking this view, it matters not so much *who* obtains the title to desert lands when reclaimed as it does that the land shall *be reclaimed*, and that the productive domain shall take the place of arid deserts, sparsely covered with grass, fit only for grazing, and which requires some 30 acres, on an average, to support each full-grown horse or cow.

The threatened laws did not pass, however, and the large majority of Wyoming's citizens hope they never may; nor, in fact, any land laws that will cripple future development of the Territory.

Had the "cattle-kings"—at whom the acts in question were supposed to be aimed—drawn a bill especially in their own interests, they could not have done better, so far as this Territory is concerned; for, with only the homestead law to enable poor men and settlers to obtain a home and a footing, very little of Wyoming would be "taken up," and the public domain would, in a large measure, remain the pastures of the live-stock owners, who are not called upon to pay tribute. In fact, very much of the public land must, in any event, remain open for pasturage on account of insufficient water for irrigation and agriculture. This last is true of more than 90 per cent. of the land lying along the Union Pacific Railway in Southern Wyoming.

While presenting the case of necessary aid for pioneer and *bona fide* settlers, I most respectfully recommend that the rules and regulations respecting the proving up upon public lands be generously and leniently applied, *if the applicant be working in good faith.* While fraud should not be tolerated, nor fraudulent land entries permitted, the deserving applicant should receive every assistance and prompt issuance of United States patent for his land.

The settler, presumably poor, grows poorer in ready money while making the necessary improvement upon his land, in order to obtain title, and he is often compelled to borrow money to get his start, buy live stock, implements, seed, &c., and with his patent to his land and consequent good security to offer, he can borrow money at living rates, when if delay in title occurs he is compelled to pay ruinous rates of interest until his entire plant is sacrificed. If special land agents are to be employed to inspect each entry, and the land under it (and there should be no objection to that), the number of such agents should be greatly increased, to the end that inspection may immediately follow final proofs. And the force where these patents must issue from should also be so increased that patents could immediately follow final proofs and favorable report of special agents.

Many a settler is compelled to leave his claim immediately upon final proof in order to earn by day or monthly labor sufficient means with which to continue improvements until his land is productive, and to support his family, and the inspector who visits his claim during this period of semi-abandonment might very naturally, and honestly enough, do the absent settler an injustice, for it must be remembered that Wyoming's lands are poorer than those of lower latitudes.

There is another aspect to Wyoming's division of the public domain, and one peculiar, perhaps, to herself; and that is regarding the "even" (even-numbered) sections, each 1 mile square, belonging to the Government, which are interspersed "checker-board fashion" among the "odd" sections of like size, belonging (or formerly belonging) to the Union Pacific Railway Company. This comprises a strip 40 miles wide, being 20 miles on either side of the railroad. Congress gave this land to the railroad company in this shape, and I am advised that the Government has since seemed unwilling or unable to exchange lands with the railroad, giving and taking larger solid bodies instead of alternate sections.

During the last two years these lands have been rapidly passing into the hands of private owners.

To illustrate the extent of this tract and amount of late transfers, I

insert the following letter, for which I acknowledge indebtedness to T. L. Kimball, esq., general traffic manager Union Pacific Railway:

DEAR SIR: After consideration for several years of the most equitable and satisfactory manner of dealing with the lands of the company in Wyoming, they were for the first time, in the spring of 1884, to be sold in large compact tracts with reference to their occupation, so far as they were occupied, for grazing and ranch purposes.

A prompt and ready sale during 1884 disposed of the great bulk of available land, the transactions aggregating 2,031,130 acres and representing an almost solid continuous body from the eastern boundary of the Territory west to the vicinity of the North Platte River and Fort Steele.

The sales of 1885 aggregated to date not far from 100,000 acres, and with negotiations now pending will by January 1, 1886, probably reach 150,000 or more. These are chiefly in the vicinity of Evanston, in the western part of the Territory, where our present most available lands lie.

While the prices have, as compared with Nebraska lands, been low average ones, they have been desirable ones for the company, and one apparent result of these sales has been the introduction of foreign capital, the strengthening of that already invested, and the development of natural resources which will make the lands more valuable.

Respectfully, yours,

LEAVITT BURNHAM,
Land Commissioner.

T. L. KIMBALL, Esq.,
General Traffic Manager.

In speaking of "foreign capital" Mr. Burnham evidently means capital from those living outside of Wyoming rather than capital foreign to the United States, for nearly all of this vast tract passed into the hands of those who have lived longest in the Territory, but who have, of course, their partners and business associates who live in other parts of the country, but invest their means here.

These lands are in the main so sparsely watered that they are only useful for grazing grounds, and to the end that the Government may do no injustice to purchasers of this tract who wish to inclose their lands, and also that purchasers may not encroach upon the public domain, I respectfully suggest and urge the necessity of legislation affecting the Government lands within this railroad limit of such lines of road as have been granted land subsidies, and lying within the arid districts west of the eastern line of Wyoming.

The legislation which granted such aid to railroads was passed only with reference to the assumption that the railroad sections and the alternate Government sections were alike available for tillage; whereas, as a matter of fact, the land lying along the Union Pacific Railway, west of the limit referred to, is in no sense arable land or available for purposes of agriculture.

Almost the entire sales of such land made by land-grant railroads have been for grazing purposes and can in no other wise be utilized.

Should the purchasers of the railroad land fence up, each section by itself, all these lands they own, whether it be done by men owning many sections or whether each man owns but one, the Government sections throughout this entire tract would be practically and virtually inclosed, each section of 640 acres by itself, yet none of the many fences would be upon Government land, and no man would have done aught but fence in for his own use the section he had in good faith purchased of parties (the railroad company) who claim a right to sell, having obtained that right from the highest source. Fence around the border of each black square on a checker-board and the red checks thereon are as fully inclosed as the black; thus it is with these even-numbered sections. And those sections lying midway between the railroad and the outside limit of this grant would have eight or ten lines of fence be-

tween them and the open domain outside the grant, although, of course, no prospective settler could or would be denied a proper right of way.

By reason of this impending dilemma, I venture to recommend that these even-numbered sections be leased or sold for grazing purposes, the only use to which they are adapted, with few exceptions.

It is to be hoped that no unreasonable prejudice on the part of the public against the cattlemen (and considerable seems to exist) will prevent a careful consideration of the recommendations offered.

Wyoming cattlemen who formerly had fences on the public lands proper have very generally taken them down, and the practice of fencing in water-courses and large bodies of Government land has been discontinued, and the disposition manifested is to observe the law, and no obstruction is offered to prevent settlers having free access to public lands.

The use of public land by cattle-growers has greatly enriched the earlier investors, but the fabulous profits made prior to the public surveys are no longer realized.

The cattle-growers upon the open range would probably buy land from the Government if they could, but the prices for land under the pre-emption and desert laws is far above what the profits of grazing will pay (taking land in large bodies as a whole) unless where water can be run upon the land. And even could he afford this price, existing laws prevent its sale except under individual land privileges. Therefore he must content himself with owning his homestead, with a desert entry upon which to cut hay, and with perhaps an additional timber culture or other entry, depending upon the open public lands for pasturing.

The cattle interest doubtless pioneered to some extent the country, and those engaged in it now are reclaiming and improving very considerable of its public lands.

UNIVERSITY AND SCHOOL LANDS.

Congress, in February, 1881, granted to certain Territories, including Wyoming, seventy two sections each of the unappropriated public lands for the use and support of a university in each Territory, when such Territory shall be *admitted as a State.*

The act provided for the immediate selection and withdrawal from sale of these sections, under the direction of the Secretary of the Interior.

I can find no record in this office of anything having been done to secure these lands, and no correspondence concerning them, except the following:

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE,
Washington, D. C., March 13, 1882.

SIR: I am in receipt, by reference from the honorable Secretary of the Interior, of your letter of the 25th ultimo, relating to the matter of the grant of seventy-two sections of public lands to the Territory of Wyoming for university purposes, under the act of February 18, 1881 (21 Stat., 326), to "be immediately selected and withdrawn from sale under the direction of the Secretary of the Interior and with the approval of the President of the United States," and in reply have the honor to inform you that in his letter of the 6th instant the honorable Secretary of the Interior instructed me as follows, that, "unless there has been legislative or executive action by the Territorial authorities in any case, I deem it proper therefore to designate the superintendent of public schools in each of the said Territories of Dakota, Montana, Arizona, Idaho, and Wyoming, as agents of this Department, to make the pre-

liminary selection; and you are accordingly instructed to advise them, giving notice also to the respective governors of the Territories of such action, and ascertain whether or not they will accept the service in view of their intimate relation to the important educational interests involved. Should they select to act without compensation from this Department or the General Government, you will at once instruct them as to the proper method of presenting their lists to the district register and receiver, who will be required to give such aid and assistance as may be necessary to accomplish the purpose of the act and make the endowment effectual.

"In case the superintendent of public schools in any Territory declines to act, or some other officer be designated by the legislature or governor, you will report the matter for the information of the Department."

Not having the address of the superintendent of schools in your Territory, I have to request that you furnish me with his name and address, so that I may be able to carry out the instructions of the Secretary.

Very respectfully,

N. C. McFARLAND,
Commissioner.

The GOVERNOR OF WYOMING TERRITORY,
Cheyenne, Wyo.

I trust that Wyoming's interest in this grant may not suffer in consequence of delay, but the opportunities to select choice sections lessen continually, and effective steps should be soon taken. The next legislature will undoubtedly offer any necessary appropriation to provide for making this selection.

I earnestly recommend, however, that these lands when selected, as well as the school lands (all sixteenth and thirty-sixth sections), be made immediately available to lease or sell while the Territory is in its infancy and struggling to maintain a high standard of schools and educational privileges.

Upon the education of the children of to-day depends much of our future.

I also venture to recommend, in justice to this Territory, which has so much almost worthless land upon which so many of these school sections sixteen and thirty-six now fall, that the barren desert sections may be exchanged for those possessing a more considerable value, either present or prospective.

YELLOWSTONE NATIONAL PARK.

More than nine-tenths of this national reservation—this "Great Wonderland," lies within the borders of Wyoming.

In 1884 the legislature of this Territory passed a law providing for justices of the peace and constables for special duty in the park, also for the protection of game, fish, and timber, and also to prevent spoilation, defacement, or destruction of the curiosities and natural objects therein. The legislature appropriated $8,000 to carry this law into effect and assist and aid the Government of the United States in keeping and maintaining the Park as a place of resort, thus showing that, while Wyoming does not claim to own the Park, her people feel a deep interest in the preservation of all its attractions.

The wonders of this great natural and national pleasure ground have been placed before the world by many writers, and the superintendent of the Park has already rendered his annual report for the current year to the Department, so I have only to add a word of recommendation with regard to Wyoming's Territorial officers residing within the Park.

I recommend the advisability of setting apart, for the use of Wyoming for the justices of the peace and constables or other officers elected under Territorial laws, a few acres of land upon which may be located

their houses, offices, jail, &c., so that the law officers themselves may not be trespassers on the very reservation they are seeking to protect.

QUARANTINE LAW.

The Territory of Wyoming has by law provided for the prevention of the spread of disease within her borders among domestic animals. The law provides for a Territorial veterinarian, whose duty is to execute certain sanitary laws and rules. The following is one section of a Wyoming law:

SEC. 3. In all cases of contagious or infectious disease among domestic animals in this Territory, the veterinarian shall have the authority to order the quarantine of the infected premises, and in case such disease shall become epidemic in any locality in this Territory, the veterinarian shall immediately notify the governor of the Territory, who shall thereupon issue his proclamation forbidding any animal of the kind among which said epidemic exists, to be transferred from said locality without a certificate from the veterinarian, showing such animal to be healthy.

Regarding the duties of the governor under this law another section is quoted:

SEC. 7. Whenever the governor of the Territory shall have good reason to believe that any disease covered by this act has become epidemic in certain localities in another State or Territory, or that conditions exist which render domestic animals liable to convey disease, he shall thereupon by proclamation schedule such localities and prohibit the importation from them of any live stock of the kind diseased into this Territory, except under such restrictions as he may deem proper.

Certain contagious diseases appearing in many counties of the several States east and south of this Territory during the past year, it became the duty of the Executive to take official notice of the many complaints filed in his office against the unrestricted passage of cattle into and through the Territory, and responding to the requests regularly made, six different proclamations have been issued from this office during the past eight months concerning admission of cattle into or transportation through this Territory.

This action on the part of Wyoming provoked much criticism for a time from some of the States and Territories, also from railroads, interested shippers, speculators in cattle, and others, but the provisions of Wyoming's quarantine regulations have been rigidly enforced, and are now, it is believed, acceptable and popular with stock-growers, shippers, and railroads, and we are at peace with the States and Territories around us.

In this Territory of unrestricted movements of cattle on open ranges, and where such a vast number of cattle are handled, precautionary measures are acknowledged to be necessary.

To illustrate the movement of cattle and their examination under regulations of quarantine, I insert the following from the Territorial veterinarian:

CHEYENNE, WYO., *November* 2, 1885.

Hon. F. E. WARREN,
Governor of Wyoming:

SIR: In compliance with chapter 41, Laws of 1882, I have the honor to submit the following report of the transactions of this office for your consideration.

Last April I called your attention to the threatened invasion of contagious pleuro-pneumonia from the Western States and Texas fever from the South through the importation of cattle from those localities, which resulted in your proclamation of April 7, 1885, scheduling all cattle coming from infected States, and imposing restrictions under the sanitary laws of this Territory upon all cattle brought here for breeding purposes.

Since March 27, 1885, 52,791 head of cattle have been brought into this Territory from 17 States and one herd from Canada, as follows:

States and Territories.	No. cattle.	No. herds.	States and Territories.	No. cattle.	No. herds.
Illinois	511	11	Kentucky	157	4
Iowa	331	34	Indian Territory	3,913	3
Missouri	444	7	Texas	9,964	6
Nebraska	6,979	37	New Mexico	11,257	10
Kansas	8,936	20	Connecticut	34	1
Colorado	6,715	10	Dakota	57	1
Indiana	306	6	Michigan	3	1
Pennsylvania	4	1	Canada	16	1
Wisconsin	252	3			
New York	32	2	Total	52,791	158

Annexed please find copy of rules and regulations governing admission of cattle into the Territory.

rules and regulations governing quarantine and the admission of cattle into Wyoming Territory.

[Extract from chapter 41, Laws of 1882.]

SECTION 2. The duties of said veterinarian shall be as follows: * * * And to inspect under the regulations of this act all domestic animals that may arrive at any railroad station in this Territory, * * * and it shall be the duty of the owner, or in his absence, of the person in charge of such animals so arriving, to notify the Territorial veterinarian without delay, and not to allow such animals or any of them to leave the place of arrival until they shall have been examined by the veterinarian and his certificate obtained that all are free from disease. * * * Any person failing to comply with this provision shall be deemed guilty of a misdemeanor, and, upon conviction, shall be fined not less than fifty nor more than five hundred dollars for each offense.

SEC. 9. The above regulations shall apply as well to animals in transit through the Territory, * * * and the Territorial veterinarian or his duly authorized agent shall have full authority to examine, whether in car, or yards, or stables, all animals passing through the Territory or any part of it, and on detection or suspicion of disease to take possession of and treat and dispose of said animals in the same manner as is prescribed for animals resident in the Territory.

Whereas The governor of Wyoming did by proclamation, on the 7th day of August, 1885, on account of the existence of contagious diseases among the cattle, schedule certain localities and forbid the importation of cattle therefrom, except only on the conditions and under the restrictions following:

(1) All cattle from localities scheduled by governor's proclamation will be quarantined on arrival in Wyoming.

(2) Cattle from localities not named in governor's proclamation must present proof: That they have been kept on one farm for the last four months; that no animals have been added to the herd during that period, and that no contagious disease has existed in the herd or vicinity.

(3) Affidavits of owners will be accepted as proof when the affiant's respectability is certified by his county clerk or president of the bank in which they do business.

(4) Dealers' cattle, gathered over a wide extent of country, will be quarantined on arrival here—(unless kept together four months previous to shipment).

(5) Veterinarians' certificates of health are of no value, unless accompanied with proof that the herd have been isolated the previous four months.

(6) All cattle from the Western States, unable to furnish satisfactory proof, will be furnished corrals and sheds, and will be held in quarantine until by lapse of time they are proved free from disease—not more than ninety days. Cattle held in quarantine are at owner's risk and expense, and they will be allowed to buy feed in the market at the lowest rates.

(7) All cattle from the Southern States must furnish proof that they have been north of the "fever line" ninety days, or they will be quarantined until by lapse of time they are deemed safe to mingle with the native cattle—at least sixty days.

(8) All cattle coming into or passing through this Territory must unload at Chey-

enne for inspection and examination of proof, and all such cattle are subject to the sanitary laws in force here.

(9) All cattle arriving here will be inspected free of charge to owner.

JAMES D. HOPKINS,
Territorial Veterinarian.

CHEYENNE, WYO., *August* 6, 1885.

The cattle imported from the different States are as follows:

State and Territories.	Number of bulls.	Remarks.
Illinois	410	Balance cows and heifers.
Iowa	554	Do.
Missouri	167	Do.
Nebraska	297	Do.
Kansas	366	Balance cows, heifers, and steers.
Colorado	163	Do.
Indiana	290	Balance cows.
Pennsylvania	4	Thoroughbred Short-horn.
Wisconsin	6	Balance cows and heifers.
New York	.....	Thoroughbred Holsteins and Jerseys.
Kentucky	157	Mostly thoroughbred Short-horn.
Canada	16	Thoroughbred Hereford.
Indian Territory	.....	Steers and heifers.
New Mexico	.....	Steers.
Texas	.....	Do.
Connecticut	.....	Cows and heifers.
Dakota	.....	Cows and calves.
Michigan	1	Cows.
Total	2,444	

From the above statement you can readily appreciate that to prevent the introduction of contagious disease it required the most rigid examination of all proofs presented and closest inspection of the cattle to satisfy the veterinarian that such cattle were free from contagion and safe to give the freedom of the Territory.

Eight herds failed to present satisfactory proof of their freedom from contagion, and were in consequence quarantined, as follows:

Owner.	Cattle.	Number of head.	Where from.	Date of quarantine.
D. B. Budd, of Green River	Bulls	20	Illinois	April 3
C. Jackson, of Idaho	Cows and bulls	21	....do	April 21
John B. Hunter, of Illinois	Bulls	32	....do	April 30
S. S. Barton, of Utah	Cows and bulls	23	....do	April 30
J. W. Smith, of Missouri	Bulls	89	Missouri	May 2
Strobridge & Andrews, of Wyoming	....do	30	....do	July 16
Dr. Brewster, of Wyoming	Heifers	59	....do	July 27
Thomas Sparkman, of Dakota	Heifers and bulls	211	....do	May 18
Total	.....	485		

In the early part of the year much difficulty was experienced in the enforcement of the sanitary laws, from the fact that the legislature of the Territory had made no provision for quarantine of cattle coming from infected States. At first, through favor of the Union Pacific Railway, I was permitted to hold cattle in quarantine at the stock-yards. But the place was unsuitable. The cattle were separated only by a board fence, and in the event of any herd developing a contagious disease, all would suffer. Again, at this yard the traffic is immense, and much complaint was made by shippers at being obliged to unload their stock at a yard where they might be exposed to contagion.

In this emergency I applied to the executive committee of the Wyoming Stock Growers' Association, who supplied the money to build the present Territorial quarantine yards, where I have every facility for the isolation of herds and stamping out any contagion that may be developed.

I desire to extend thanks to the Union Pacific Railroad, who have, through Mr. Denel, superintendent of this division, given me every facility for the examination of all imported cattle, and at their own expense connected the Territorial quarantine

yards with the main line with a switch; also for their promptness in the disinfection of cars which had carried suspected cattle.

Of the 52,791 cattle arriving at Cheyenne, 13,491, in 30 herds, were consigned as follows:

States and Territories.	No. cattle.	No. herds.
Utah	504	10
Idaho	4,930	11
Oregon	14	2
California	22	1
Montana	7,600	2
Dakota	296	2
Colorado	48	1

Since last March I have examined and condemned under the sanitary laws of this Territory 60 horses and mules, found suffering with glanders and farcy. These animals were all destroyed and buried.

I take great pleasure in informing you that there is no contagious disease among the cattle of Wyoming.

Respectfully submitted.

JAS. D. HOPKINS,
Territorial Veterinarian.

Hon. F. E. WARREN,
Governor of Wyoming.

TERRITORIAL LAWS.

The laws of the Territory are generally good and applicable, through the co-operation of the Federal and Territorial courts, to nearly all causes arising. The last legislature, however, provided for a revision and compilation, by the appointment of a commission consisting of three persons, practicing attorneys, in the Territory. The duties of this commission were to "revise, simplify, arrange, and consolidate all statutes of the Territory which shall be in force at the time such commissioners shall make their final report of their doings"; also, "to show in some suitable manner all changes in, and additions proposed to be made to, the existing laws of the Territory." These commissioners were to file a copy of their work with the Secretary of the Territory, "to be submitted to the ninth legislative assembly of the Territory upon its convening, that the statutes so revised, amended, added to, and consolidated may be re-enacted if the legislative assembly of the Territory shall so determine."

A meeting of the ninth legislative assembly early in January is *very necessary*, on account of this revision and compilation work, which has already cost the Territory nearly $5,000.

PARDONS.

The organic act of Wyoming provides that the governor "may grant pardons for offenses against the laws of said Territory and reprieves for offenses against the laws of the United States until the decision of the President can be made known thereon."

During my incumbency of the office I have granted no reprieves and but few pardons. In granting the latter, extreme youth, good conduct on the part of the prisoner, or failing health have been the main considerations.

PENITENTIARY.

The penitentiary at Laramie City belongs to the United States.

The building is a substantial one, being one wing of a projected larger building. It is under the management of the United States

marshal, and contains, at present, less than a dozen prisoners. The Government receives Territorial convicts, charging a per diem for their board and safe-keeping; but, inasmuch as the Territory can arrange for the keeping of its prisoners elsewhere without cost, except the labor of convicts, the Territory has designated the penitentiary at Joliet, Ill., and one at Lincoln, Nebr., as penitentiaries for Wyoming.

The United States own no other public buildings in the Territory. United States officers rent quarters for offices, United States courts, post-offices, &c.

PUBLIC BUILDINGS.

The Territory of Wyoming owns no public buildings, such as Territorial capitol, library, offices for Federal officers, &c.

The United States having formerly made appropriations for public buildings (as in New Mexico), it is earnestly hoped Wyoming's needs may be favorably considered in this connection, and capitol buildings be provided for the officials and the legislature, also court buildings and post-offices.

LAW LIBRARY.

The Territory owns a valuable library, consisting of over 10,000 volumes. There should be a suitable building provided in which to preserve this valuable acquisition.

MAIL FACILITIES.

Wyoming Territory is inadequately supplied with post-offices and mail service. The population is scattered over the entire Territory. The settlements may be said to cover nearly 100,000 square miles. The property accumulated, aggregating nearly or quite $100,000,000, is as widely located as the population. The post-offices are so few and the mail routes, on which service has been placed, are so far apart that little opportunity is afforded, so far as the mails are concerned, for the transaction of the business of the Territory. There are many places where letters and messages are carried at the expense of individuals. It is to be hoped that the Post-Office Department will find it expedient to furnish, without delay, the means for the handling of the mail to the extent which the business and population of the Territory appear to demand.

THE LEGISLATURE—NEEDED AID.

The organic act of Wyoming, which provides for its Territorial form of government, contains the following clause:

> That the legislative power and authority of said Territory shall be vested in the governor and legislative assembly. The legislative assembly shall consist of a council and house of representatives. The council shall consist of nine members, which may be increased to thirteen, having the qualifications of voters, as hereinafter prescribed, whose term of service shall continue two years. The house of representatives shall consist of thirteen members, which may be increased to twenty-seven, possessing the same qualifications as prescribed for members of the council, and whose term of service shall continue one year. An apportionment shall be made by the governor as nearly equal as practicable among the several counties or districts for the election of the council and house of representatives, giving to each section of the Territory representation in the ratio of their population (excepting Indians not taxed) as nearly as may be, and the members of the council and house of representatives shall reside in and be inhabitants of the districts for which they may be elected, respectively.

Also:

But thereafter the time, place, and manner of holding and conducting elections by the people, and apportioning the representation in the several counties or districts to the council and house of representatives, according to the population, shall be prescribed by law, as well as the day of the commencement of the regular sessions of the legislative assembly.

The first session of the legislature under the act commenced in November, 1869. This legislature provided for the apportionment upon which to elect the next legislature by appointing a committee from its own members, whose duty it was to meet in June, 1871, and apportion the members of the council and house of representatives according to the population as shown by the census of 1870. Since that time, although regular sessions of the legislature have been held biennially—eight sessions in all—and members of the ninth assembly elected for a session to convene January 12, 1886, but *one* apportionment law has passed the Wyoming legislature, and that one passed the seventh session, and provided for the apportionment upon which the members of the eighth should be elected.

In the years when no specific law provided for an apportionment the members of the legislature were elected upon the authority of an apportionment by the governor or upon the basis of some former apportionment.

At the general election in Wyoming for Delegate in Congress and county and precinct officers, held November 4, 1884, there were elected 12 members of the council and 24 members of the house of representatives for the ninth biennial session of the legislature of Wyoming which should meet January 12, 1886, according to the act of 1879, that provides—

That the legislature of the Territory of Wyoming shall convene at the capital of the Territory on the second Tuesday of January, in the year 1882, and on the second Tuesday of January every second year thereafter.

The names of the members-elect and the council and representative district from which they were elected are as follows:

First council and first representative district (Laramie County).—Council: J. H. Ford, H. E. Teschemacher, C. W. Wright, and Joseph Granger. House: W. A. Robins, N. J. O'Brien, C. H. Guernsey, A. D. Kelley, M. P. Keefe, George Mitchell, Frank A. Miller, and J. M. Tompkins.

Second council and second representative district (Albany County).—Council: Leroy Grant, J. W. Blake, and A. S. Peabody. House: S. W. Downey, N. M. Knight, D. B. Dole, M. M. Towne, and Addison Turrill.

Third council district (Carbon and Johnson Counties).—Council: John McCormick and Wm. Daley.

Third representative district (Carbon County).—House: John A. Mathews, J. S. Kerr, Frank Williams, and E. W. Genter.

Fourth representative district (Johnson County).—House: J. M. Lobban.

Fourth council and fifth representative district (Sweetwater County).—Council: A. T. Challice. House: Isaiah Whitehouse and C. H. Bussey.

Fifth council and sixth representative district (Uinta County).—Council: Jos. E. Cashin and Chas. Deloney. House: R. B. Seaton, Wm. Summers, and John L. Russell.

Fremont County.—House: James Kime.

This election of these members was at an election held pursuant to law, after the several boards of county commissioners had issued the

usual formal notices to electors, naming the officers to be chosen, and the usual notice from the secretary of the Territory (which did not refer to any apportionment) to said county commissioners. At the proper time after said election the vote was canvassed and certificates of election were duly executed and delivered by the governor of Wyoming Territory, (Governor William Hale, my predecessor.) No charges of fraud or illegal voting have ever been made, no notices of contest for seats been filled, and nothing irregular or illegal is charged against said election or any of the members-elect, except that a proper law providing for apportionment was not passed or introduced even in the eighth legislative assembly. No complaints have been regularly made, nor any action commenced by any citizen tending to prevent the meeting of the legislature elect as elected, but the secretary of Wyoming, Hon. E. S. N. Morgan, feeling that he must be correct under his official bond regarding the disbursements of the appropriations made by Congress for the expenses of the ninth legislative assembly, has had the following correspondence with the Hon. Comptroller of the Treasury:

TERRITORY OF WYOMING, EXECUTIVE DEPARTMENT,
Secretary's Office, Cheyenne, October 15, 1885.

SIR: The eighth legislative assembly, which convened at Cheyenne, January 8, 1884, failed to make any apportionment for the election of members of the council and house of representatives, and the apportionment enacted by the seventh (1882) legislative assembly seems clearly, by its terms, to provide only for the election of members of the eighth (1884) legislature.

On the 4th day of November, 1884 (the legal time), a general election was held for the election of a Delegate to Congress, members of the ninth (1886) legislature, county and precinct officers. Returns were made of said election by the county clerks, as the law of Wyoming requires, to the secretary of the Territory; the returns were duly canvassed by the territorial board of canvassers, who certified to the governor that 12 persons for the council and 24 persons for the house of representatives, naming them, had received the highest number of votes and were entitled to receive certificates of election as members of the ninth (1886) legislative assembly, and the governor, Hon. William Hale, deceased, issued certificates of election to the 36 persons named. It is not questioned that all the legal forms governing elections in this Territory, except the question of apportionment, were complied with.

The election for members of the ninth (1886) legislature seems to have been guided, by common consent, by the apportionment of 1882, modified by the Fremont County act (Fremont County was duly organized May 4, 1884), although in the notices to the several boards of county commissioners that the election would be held on November 4, 1884, no reference was made to any apportionment. I inclose copy of the act of Congress authorizing apportionment of 1880 [Chapter 119, supplement to Revised Statutes of the United States]; copy of the apportionment of 1880 [Wyoming]; copy of the apportionment of 1882 [Wyoming]; copy of the Fremont County act (see proviso to section 1) [Wyoming]; copy of the act fixing time of convening of legislature [Wyoming].

If the apportionment of 1882 is only a temporary alteration of the apportionment of 1880, and if the apportionment of 1880 governs the election of the ninth (1886) legislature, a majority of the members of the council and a majority of the members of the house of representatives of the ninth (1886) legislature have been elected under it.

I have been informed that a provision (attached to the appropriation bill) providing for a new election of the legislature in this Territory passed the National House of Representatives last session, and failed to pass the Senate.

Until recently I had some reason to believe that our people would unite in asking Congress to legalize, if necessary, the ninth legislative assembly. My belief now is that they will not so unite, as serious differences of opinion exist as to the status of the legislature of 1866, and the remedy, if needed.

If it should be my duty to make usual preparations for the meeting of the legislature in question (the ninth, 1886, legislature), I should commence doing so about December 1, but if necessary I could make the needed preparations on and after January 1, 1886, as the time for the legislature to convene will be January 12, 1886. As you are aware, Congress made customary appropriation for "legislative expenses, Wyoming Territory, 1886." I am exceedingly anxious that the appropriation be legally and rightfully expended, and I respectfully ask that you will instruct me as to the expenditure of this appropriation for the legislature in question—that is, shall I or not

expend any part of the appropriation for "legislative expenses, Wyoming Territory, 1886" for the purposes of the ninth (1886) legislature in advance of action by Congress legalizing the election of 1884, if that is necessary.

Very respectfully,

E. S. N. MORGAN,
Secretary Wyoming Territory.

Hon. M. J. DURHAM,
First Comptroller Treasury, Washington, D. C.

TREASURY DEPARTMENT, FIRST COMPTROLLER'S OFFICE,
Washington, D. C., October 21, 1885.

SIR: In response to your letter dated October 15, 1885, regarding apportionment and the election of members of the legislature in Wyoming Territory, you are advised that, as doubt exists as to legality of the election of the members of the legislature to be held in January and February, 1886, under the acts of Congress and the Territorial apportionment acts of June 3, 1880, and March 10, 1882, respectively, it will be better not to disburse any money in preparing for the ninth legislative session to convene on the 12th of January next until further instructed.

The Delegate from Wyoming will be furnished with a copy of your letter, advised of this action, and requested to bring the matter before Congress for its determination thereon.

Respectfully,

M. J. DURHAM,
First Comptroller.
By J. R. GARRISON,
Deputy First Comptroller.

Hon. E. S. N. MORGAN,
Territorial Secretary, Cheyenne, Wyoming.

Considering this correspondence, the secretary cannot well proceed to prepare suitable quarters, nor the legislative assembly meet, until relief is afforded by the authorities at Washington.

If this matter must receive Congressional action, and Congress should conclude to legalize the election as had, seating those now holding certificates of election regularly issued, such action should be of early date in order to enable the legislature to meet on the legal date (January 12, 1886) or soon thereafter; but if the wisdom of Congress should suggest a new election the time consumed by preparing a new and proper apportionment, and the calling of and securing a new election throughout the Territory, would throw the time of such election so far into winter that very great hardship and inconvenience would attend such election.

At the time the present members-elect were chosen, every county and every former council and representative district was represented, and men from each elected. Since that time, however, the county of Crook has been organized, and although citizens of that county voted with the citizens of Laramie County, and are represented by those who received their support and were elected, none of the members so elected happen to live in that portion of Laramie County which afterward became Crook County by the division.

In 1873 the legislature of Wyoming, in accordance with the privileges granted in the "organic act," passed a law increasing the number from 9 to 13 members of the council and from 13 to 27 members of the house of representatives, to take effect after January 1, 1874. The succeeding legislative assemblies continued this number until, by subsequent action of Congress, the number was reduced to 12 in the council and 24 in the house. This last number is inconvenient to properly divide and apportion equally in this large Territory, and is also inconvenient and annoying on account of constant danger of a "tie vote" blocking the wheels of legislation.

In view of all these facts the following suggestions are respectfully offered:

(1) That the members elected in November, 1884, at the election for that purpose, be considered the legal legislative body, and this at a date early enough to permit them to meet at the legal date or soon thereafter; or,

(2) That an act be early passed by Congress providing for thirteen members of the council and twenty-seven members of the House of Representatives, and making the extra appropriation for the payment and expenses of the four additional members. Then authorize a special election for the four extra members; in the new county of Crook, one member of the house; the county of Johnson, one member of council and one member of house; and the county of Fremont, one member of house, which said four members and the thirty-six already elected shall constitute the ninth legislative assembly (in this way no delay for making apportionment would occur), and that hereafter there shall be thirteen members of the council and twenty-seven members of the house for the legislative assemblies of Wyoming Territory; or,

(3) If neither the first nor second plan can be adopted, provide, by Congressional action, for a new apportionment and an election to be had on the same day in 1886 that Delegate to Congress and county and precinct officers are elected, and then let the legislature of Wyoming meet in the "odd" years, instead of the "even," hereafter, and have elections biennially only (all county and precinct officers are now elected biennially), and the legislature-elect will then, in consequence, go into session two months after their election, rather than fourteen months, as now, with vacancies occurring and special elections to fill same on account of deaths, removals, &c., among members elect during the said fourteen months. In this case also the number of members should be increased to thirteen and twenty-seven, as hereinbefore recommended, thus avoiding frequent "tie votes" in each body, and also aiding by the larger number to effect an equal and just distribution in the apportioning. In any case, Congress should authorize some means to hereafter provide for apportionment in the event the Territorial legislature fail to do their duty.

The trouble in providing for apportionment has heretofore been that different counties under their county organization seem the most natural divisions for council and representative districts. The whole number allotted cannot be equitably divided as to counties, and when counties are grouped together and candidates "at large" are nominated, the more thickly populated and stronger counties elect the "candidates at large" from their own localities, thereby leaving the weaker localities unrepresented. Unpleasant feelings growing out of this result have largely prevented the legislature from passing necessary apportionment laws heretofore. Our elections in this regard have not been controlled by partisan feelings, but locality and fitness of the candidate have been the governing influence.

Should the third plan of solving the legislative muddle be adopted, there should also be a clause in the act permitting the continuance of disbursements of Territorial funds throughout the year 1886, and until the next legislature meets, on the same basis, except as to special appropriations, the necessity for which no longer exists, as provided for in the appropriation acts of the eighth assembly, which provides for disbursements only until April 1, 1886—*i. e.*, where certain payments are provided for by law which are, of necessity, continuous, such as regular and contingent salaries, support of prisoners, aid to preserve law

in Yellowstone National Park, &c. The last legislature was very economical in appropriating money, and no ill result of continuing like payments during nine or ten months more could possibly ensue, and there will be sufficient funds in the Territorial treasury for that purpose.

Unless some relief of this kind can be afforded, endless and vexatious litigation will almost surely follow. Hon. J. M. Carey, Delegate in Congress from Wyoming Territory, will no doubt bring this matter before the Department, and, if necessary, as it now seems, before Congress very early in the coming session.

CHINESE MASSACRE AT ROCK SPRINGS.

This outrage, which has blotted the fair name of Wyoming, is condemned by every law-abiding citizen of this Territory who has not allowed prejudice to take possession of his judgment.

This horror was perpetrated by a mass of men (and women) none of whom, it is believed, were native-born citizens of the United States, and very few of whom were naturalized citizens, or had even declared their intention of becoming such.

That it was premeditated on the part of a few has become apparent since the occurrence, but to all other parties it was as "lightning from a clear sky."

The officers of the Territory and the officers of Sweetwater County (in which the town of Rock Springs is situated) had no knowledge, so far as it is known, of an impending outbreak, and of course no special precautions had been taken to prevent one.

Chinese laborers first came to Rock Springs in 1875. The Union Pacific Railroad (or their coal contractors) gave them employment at that time in the coal mines, and their employment since has been continuous, with no disturbances unusual to coal-mining districts until September 2, 1885.

Just prior to the employment of Chinese in 1875 the Union Pacific Railroad Company had suffered from the white miners previously employed one of the most aggravating "strikes" ever experienced in this vicinity, and as the strikers would not be satisfied with even the *entire* proceeds of the coal product (less freight charges) for their wages mining it, it became necessary to procure an entirely new force. The railroad company, evidently wishing to prevent such future combinations, employed a mixed force consisting of about one-third white and two-thirds Chinese miners, the company paying each the same wages without regard to color.

During the past summer there has appeared much restlessness throughout the coal-mining regions of the entire country, and there has also been very much "anti-Chinese" feeling exhibited west of Wyoming. The dissatisfied feelings of coal-miners' unions *et al.* from the East and South and the anti-Chinese feelings in the West have had their influence upon the miners of Wyoming; and the more ignorant and brutal the person, the easier to incite to deeds of violence; hence, when unprincipled demagogues, who live upon contributions from the workingmen they mislead, make their trips stealthily through this country, claiming to belong to labor organizations, and masquerading as friends of labor, giving out their insidious command, "The Chinese must go," they cause the more ignorant subjects of foreign countries to accept the doctrine that America is a free country and they are free to murder and maraud if thereby any temporary advantages may be secured to themselves.

It is true, without reasonable doubt, that mischievous parties living outside of Wyoming have traveled over the railroad lines within the Territory, counseling white laborers to drive out the Chinamen at all hazards, and assuring them that an uprising would occur throughout the entire West and Northwest, and that the fagot and bullet would be resorted to if necessary; and it must be confessed with mortification, that these sentiments found many supporters among those who have habitation within this Territory.

The few persons who are believed to have incited and planned the expulsion of the Chinese from Wyoming are those alluded to, who, while proclaiming themselves *friends of labor*, and who are perhaps members of some obscure or auxiliary labor organization, are really *enemies* of labor and the laboring class.

No respectable general labor organization stands accused of planning the killing, burning, and robbing on that black day at Rock Springs, nor do they merit the charge of justifying or directly and intentionally supporting it. But it is to be regretted that very many within the ranks of labor societies have been passive as to results of such an outbreak, and do not sufficiently exert themselves to discover and bring to justice the guilty parties, nor denounce the occurrence as the sin against their order which it really is, as well as monstrous crime against humanity.

In justice to the laboring classes it should be said, however, that at large labor meetings recently held in different portions of the Territory, it was found that the number who apologize for or justify the brutalities that occurred at Rock Springs, is inconsiderable.

The laboring men of Wyoming should know that capital and labor are dependent upon each other, and all demonstrations of labor which destroy capital and disorganize labor react upon the laboring class; and that every riotous act and every reckless attack that destroys capital causes capital already invested to be very conservative, and prevents the investment of more, especially from those outside the Territory. This cripples a young and growing Territory exceedingly, as without growing capital the industries requiring labor must languish. Labor organizations *may* become a "grinding monopoly" possessing all the reprehensible features of the "soulless corporations" they assume to attack. In fact, laboring men should take care that only reasonable, firm, calm men should be elected to office and leadership. With wisdom in management, organized labor can accomplish much that is good, and can protect the weak in its own ranks, but under vicious management it can become a most galling, crushing, monopoly, whose arrogant demands cause suffering and destitution among the weaker in its own ranks. In fact, it *can* become as unreasonable and oppressive as the monopoly of combined capital.

When laborers of other nationalities combine against those of any one race and are allowed to resort to violence, there is no security against the expulsion, each in turn, of every other race by the stronger combinations, until only those of one nationality—the most numerous—remain.

This is opposed to the principles of American institutions. It is the most dangerous for citizens of foreign birth. They, of all others, are unpardonable for their shortsightedness in provoking and wishing to maintain a war of races, as well as for abusing the hospitality of a nation whose shores have ever been open to the world.

It is greatly to be regretted that one county in this Territory now rests under the stain of permitting blood to be spilled and arson and

robbery to be committed within her borders, without prompt discovery and punishment of the guilty parties, but it is to be hoped that "the end is not yet," and that this county will yet purge herself of the imputation that a premium is offered for crime by the non-punishment of her criminals. And in extenuation of the county's failure, so far, to convict (a large number of arrests having been made) there may be truly offered, as an excuse, the palliating circumstance that this lamentable affair happened in the absence of all sworn officers, at a point distant from her county seat and at Chinese quarters somewhat isolated from the town of which it forms a part; also that there were present but the two bodies, the rioters and their victims. The former would not, of course, testify, and the latter have been deemed "unworthy witnesses" at the preliminary examinations.

Those who are familiar with the history of riots throughout the country, and the attempts made to bring all the guilty ones to justice, know how difficult it is to identify the individual rioters and their individual crimes in any case.

In the Rock Springs cases, circumstances are less favorable for discovery than usual after riotous disturbances. The fault is not with county officers, but with the "peers" of the accused who pass upon the guilt or innocence and as to sufficient cause for indictment, and as to the general condition of the county regarding law and order.

Those who sympathize with or undertake to justify this outlawry claim that white laborers were without work and suffering in consequence of the employment of Chinese; that the country is being overrun with Chinese in consequence of the alleged apathy of the United States in enforcing the Chinese restriction act; and that the Union Pacific Railway Company has been, and is, discriminating against white labor in favor of Chinese, and that the gradual increase of the latter will ultimately supplant the former.

All of these charges yet remain unproven, and were they proven, no valid defense would exist for the crimes committed at Rock Springs, as deliberation and arbitration will remedy all grievances without resort being had to extremes. The sympathies and support of a community will invariably be extended to the laboring classes, in their efforts to better their condition, so long as they are conservative and law-abiding; but violence must not and cannot be tolerated.

Looking to Wyoming's interests, it is recommended that the restriction act applying to Chinese immigration be rigidly enforced as long as that act may be upon our national statute books, thereby encouraging general obedience to all laws; also, that all authentic information showing its full enforcement, and the consequent diminishing of Chinese immigration, be promulgated through the proper channels in this and other Western and Northwestern Territories and States.

Inasmuch as the United States civil rights laws and a national treaty have been transgressed, it is recommended that the United States, through its proper officers, instigate proceedings, if possible, in another county from that in which crimes were committed, and that all witnesses deemed competent may have a hearing.

It is further recommended that, in the Territories, the Federal authorities shall extend promptly (as they did in Wyoming's case) the strong aid of the Government in support of the preservation of life and property, whenever in jeopardy or when attacked by any lawless organized mobs whomsoever, when county authorities are obliged to apply through the executive for such necessary aid, and when the executive has no Territorial militia at his command. Also that the precise standing of

Territories be defined, as to the bearing the United States insurrection act and similar acts have upon said Territories.

If intended to apply to Territories, it would greatly simplify matters if the word "Territories" were inserted in many places. Congressional action could make the matter clearer.

The prompt action of the President in this case undoubtedly prevented further bloodshed and great destruction of property.

In conclusion, Mr. Secretary, I most respectfully offer, as a *résumé* of the foregoing pages, the following recommendations:

That immediate action should be taken to enable Wyoming Territory to secure a meeting of its Territoral legislature, which should take place in January, 1886. It is believed that without relief another session cannot convene and no further laws be enacted, if the ruling of the honorable Comptroller of the Treasury remains unchanged as to expenditures. (See article in this report entitled "Legislature;" note suggestion in last paragraphs; also see article on Territorial Laws.)

That the strict enforcement of the act restricting Chinese immigration be maintained, *so long as it may remain a law*, and a knowledge of its enforcement promulgated in certain (Western) disturbed localities.

Also that United States courts take up cases of violation of the law, and that the Government aid in the protection of life and property in certain cases; and that the standing of Territories be more clearly defined under the insurrection act, United States Revised Statutes, and similar acts. (See last clauses of article on "Chinese Massacre at Rock Springs.")

That the enclosure of certain public lands receive attention and necessary legislation; that certain public lands be either leased or sold; that final proofs upon public lands by *bona fide* settlers be made easier, and that United States patents may speedily issue after final proof and necessary inspection; but, in the mean time, great care should be exerted to prevent fraud; that the school and university lands be made useful to the schools and Territory, while young and poor, instead of reserving them until admitted as a State; also, that barren sections be exchanged for more productive ones; that no existing privileges under land laws be repealed as regards Wyoming. (See article on "Public Domain.")

That a few acres be set apart in the Yellowstone National Park for the homes, offices, &c., of the justices of the peace, constables, and other Territorial officers, elected by the Territory under its laws to aid in preserving the attractions of said Park. (See article on "Yellowstone Park.")

That mail facilities be greatly expedited in certain sections of Wyoming. (See Article on "Mail Facilities.")

That the Government may provide public buildings in Wyoming, especially capital buildings. (See Article on "Penitentiary;" also "Public Buildings.")

That four United States judges should be provided for Wyoming Territory, instead of three, as at present; because, first, the field is a large one; litigation is growing with the increase of population, and the labor of the judges steadily increasing; second, in case of appeal to the supreme court of the Territory, the judge sitting on a case below must again sit in judgment upon his first decision, while, were there four judges, the supreme court could try cases with three, none of whom had before considered the same case.

That appointments to Territorial offices be made from the citizens of

the Territory, so far as may be. The growing practice of so appointing is appreciated by the people of the Territory.

That Indians be kept carefully on their reservations, in States and Territories surrounding us, when said reservations adjoin our borders.

That the Delegate in Congress from Wyoming (and, in fact, from all the Territories) shall be vested with the same rights and powers of legislation as members of Congress from the several States.

That the people of the Territories shall be given the privilege and right of voting in the elections for President of the United States.

That the case of Wyoming be considered as to Statehood at the earliest reasonable date. Wyoming *now* lacks sufficient population, but with its present rate of increase the Forty-ninth Congress, before its close, could safely admit this Territory.

Respectfully submitted.

FRANCIS E. WARREN,
Governor of Wyoming.

Hon. L. Q. C. LAMAR,
Secretary of the Interior.

SPECIAL REPORT

OF THE

GOVERNOR OF WYOMING

TO THE

SECRETARY OF THE INTERIOR

CONCERNING

CHINESE LABOR TROUBLES.

1885.

SPECIAL REPORT CONCERNING CHINESE LABOR TROUBLES.

WYOMING TERRITORY, EXECUTIVE OFFICE,
Cheyenne, November —, 1885.

SIR: I have the honor to submit the following special report:

Late in the afternoon of September 2, 1885, Mr. J. M. Tisdale, assistant superintendent of the coal department of the Union Pacific Railway Company, made a personal application at this office for aid to assist in quieting a riot at the coal-mines near Rock Springs, Wyo. He made this request in behalf of the Union Pacific Company, whose property was represented as being destroyed by the armed mob of white coal-miners, who had attacked the Chinese coal-miners, and were reported as having driven them from their homes and being engaged in burning their houses. Mr. Tisdale resides at Rock Springs, but was in Cheyenne on that day, and the news of the outbreak coming by telegraph was made very clear to me by reason of his familiarity with the town and the men engaged there. Having no Territorial militiary at my command, and believing this to be an emergency where military aid would soon be necessarily called for, I telegraphed to the officer in command of this military department, as follows:

CHEYENNE, *September* 2, 1885.

General O. O. HOWARD,
Commanding Department of Platte, Omaha, Nebr.:

Union Pacific Railway officials report mob of white men at Rock Springs, Wyo., in arms and attacked Chinese miners at that point. Have driven Chinamen from their quarters, and mob now burning Union Pacific property. Wyoming has no organized militia. Can you afford military protection to life and property at Rock Springs?

FRANCIS E. WARREN,
Governor.

An hour later I received the following telegram from the sheriff of the county that contains Rock Springs:

GREEN RIVER, WYO., *September* 2, 1885.

Governor F. E. WARREN:

There is a riot in Rock Springs between white and Chinese miners. It is necessary that the same should be suppressed, and I call on you to send two companies of soldiers to Rock Springs immediately.

JOS. YOUNG, *Sheriff.*

I telegraphed reply as follows:

CHEYENNE, *September* 2, 1885.

JOSEPH YOUNG,
Sheriff, Green River, Wyo.:

Your dispatch received. Having no Territorial militia, I have asked for military aid. If possible summon sufficient posse to suppress riot, and protect life and property to your utmost power.

FRANCIS E. WARREN,
Governor.

I also sent the following telegram:

CHEYENNE, *September* 2, 1885.

General O. O. HOWARD,
Commanding Department of Platte, Omaha, Nebr.:

Telegram just received from Joseph Young, sheriff Sweetwater County, reporting riot at Rock Springs, Wyo., which he is unable to suppress. He asks assistance of two companies troops immediately.

FRANCIS E. WARREN,
Governor.

I also made a personal call on the commander, Colonel Mason, at Fort Russell, three miles from Cheyenne, and suggested that he hold one or more companies of troops in readiness to move in case I should secure the orders from General Howard to forward a force to the disturbed locality, and I received favorable assurances from that office.

Early in the evening I received the following from the general traffic manager of the Union Pacific Railroad:

OMAHA, ———, —.

Governor F. E. WARREN,
Cheyenne:

If you have not sufficient civil force at your command to protect this company's property and employés at Rock Springs, will you not immediately telegraph General Howard to send you aid at once. If necessary for you to consult the Secretary of War, please wire him immediately.

THOS. L. KIMBALL.

I replied as follows by telegraph:

CHEYENNE, *September* 2, 1885.

THOS. L. KIMBALL,
General Traffic Manager, Union Pacific Railroad, Omaha, Nebr.:

Sent two urgent messages to General Howard, Omaha, several hours since, immediately upon Mr. Tisdel's request asking aid to suppress riot, advising him that Wyoming Territory has no militia; also that the sheriff of Sweetwater County had wired me he was powerless to preserve order, and wished two companies of troops at once. Can you not see commanding officer immediately, adding your company's request to mine and asking General Howard to reach Secretary of War if necessary? I wire War Department, Washington, direct. Please command me to aid in any possible manner protecting life and property.

FRANCIS E. WARREN,
Governor.

I also sent the following telegram to the Secretary of War:

CHEYENNE, *September* 2, 1885.

Hon. SECRETARY OF WAR,
Washington, D. C.:

An armed mob of white men have attacked Chinese miners working for Union Pacific Railway at Rock Springs, Wyo., driving Chinamen into hills and burning their houses and property belonging to railroad company. Sheriff of that county powerless to suppress riot, and applies to me for military aid. Union Pacific officials, call for protection of life and property at Rock Springs. Wyoming Territory has no militia, and I have applied to General Howard, Omaha, for immediate military aid.

FRANCIS E. WARREN,
Governor.

Reports of further trouble continuing to come, I took a special train over the Union Pacific Railway, at midnight, for Rock Springs.

During the trip west that night I kept myself informed as fully as possible of affairs at Rock Springs by numerous telegrams received at different stations, and each dispatch showed a more serious state of affairs than its predecessor.

At some point along the railroad the following dispatch was handed into the car I occupied:

OMAHA, NEBR., ——— —, 1885.

Governor WARREN:

Your two telegrams to General Howard have been received and forwarded to Division Headquarters in Chicago for instructions.

I suggest that you apply by telegraph to the President, at Washington. Meantime troops at Forts Steele and Russell will be held in readiness to move on receipt of orders.

SAMUEL BRECK,
Adjutant-General.
(in absence of General Howard.)

From first telegraph station west, after receiving this, I sent the following dispatch:

WASHAKIE, WYO., *September* 3, 1885.

The PRESIDENT, *Washington, D. C.:*

An armed body of white men at Rock Springs, Wyo., have attacked Chinese coal miners, working for Union Pacific Railway at that point. Have driven Chinamen out of town into hills. Have burned their houses and are destroying railroad property; some forty houses burned; three men known to be killed, many more believed to be. Mob now preventing some five hundred Chinamen from reaching food or shelter. Sheriff of county powerless to suppress riot, and asks for two companies United States troops. Wyoming Territory has no militia. I have requested troops through General Howard, at Omaha. I believe immediate assistance imperative to preserve life and property.

FRANCIS E. WARREN,
Governor.

Arriving at Rock Springs the morning of the 3d, I found that the dispatches from there had stated but a portion of the truth.

Nearly a score of the dead bodies of Chinamen (or the dismembered parts of bodies enough to make that number) had been picked up where shot on the plains, or had been exhumed from the ashes, and from the earth that had fallen in from the dirt roofs, where they had been roasted to death in their own homes; and the opinion prevailed that fully as many more were yet under the ruins. Not a living Chinaman—man, woman, or child—was left in the town, where 700 to 900 had lived the day before, and not a single house, shanty, or structure of any kind, that had ever been inhabited by a Chinaman, was left unburned. The smell of burning human flesh was sickening and almost unendurable, and was plainly discernible for more than a mile along the railroad both east and west. A small number only of the Chinamen had received a few moments' notice in which to leave the town, but the larger number had none whatever, and no time to pack up or secure their household effects and clothing, nor, in fact, their money. A great number were attacked at the mouth of the several mines as they came out—half naked, as coal miners sometimes work—and they were obliged to run for their lives into the sand hills surrounding the town, some being killed and many wounded by gunshot wounds as they ran. The Chinese quarters and their persons had been robbed during and subsequent to the trouble.

A special train was improvised and supplied with food and water by the Union Pacific Company to relieve those in the hills that were suffering for food, and this train, in charge of railroad men, was sent out east and west of town to pick up the refugees. The special train bearing them was run through town to Green River, the county seat, 15 miles west. Many were found seriously wounded and others slightly.

The sheriff of that (Sweetwater) county was at Rock Springs, having arrived the night before, but too late in the progress of the riot to assemble a posse. The sheriff stated that he could not even then find men enough in Rock Springs who were not in sympathy with the issue

of the riot to constitute a posse sufficient to arrest the rioters, protect property, or prevent further attacks should a Chinaman show his head in the town.

Those who had participated in the attack were not claiming recognition as rioters, but the general expression that "no Chinese should ever again live in Rock Springs" was vehemently announced, as well as the announcement that none should be arrested for acts committed, and that danger and destruction would attend all those who might choose to differ with them.

Coal mining (and the auxiliary pursuits growing out of it) is the sole business at Rock Springs. The number of white men who attacked the Chinese is variously estimated from 150 to 350 men. The town was so terrorized at this time that scarcely a dozen people in it could be found who would offer a word in condemnation of the occurrence, the balance being either silent, non-committal, or in sympathy with the rioters. The white coal miners were all of foreign birth and mostly aliens.

One of the county commissioners, living at Rock Springs, assured me that the county would indorse the sheriff's action in appointing any necessary number of deputies, and provide for their payment.

On the evening of September 3 I proceeded to the county seat (Green River), to confer with other county officers. While there I received the following telegram from the sheriff of Uinta County (the next western county), in which is situated the Almy coal mines, where Chinese miners, in part, were employed; also the headquarter Chinese town near the town of Evanston. At this place were assembled the 500 or 600 Chinese living there and the Chinese refugees from Rock Springs:

EVANSTON, *September* 3, 1885.

Governor WARREN, *Green River:*

In the opinion of the prominent citizens of Evanston and myself the outrages at Rock Springs are liable to be repeated here and the property and lives of some of our citizens in great danger, as well as the property of the Union Pacific Railway Company. I would respectfully request the aid of a company of troops immediately. Over 500 Chinese refugees from Rock Springs are here now.

J. J. LECAIN.

I replied in the following dispatch:

GREEN RIVER, WYO., *September* 3, 1885.

Sheriff J. J. LECAIN, *Evanston, Wyo.:*

Your dispatch received. Take every precaution to prevent riotous demonstrations. Have plenty special deputies; and, if trouble, yourself and deputies call on every man around you under the law to assist you. Record all who refuse you or are riotous for future prosecution. Your request has attention. Civil control must take precedence in defenses.

FRANCIS E. WARREN,
Governor.

The sheriff then telegraphed me as follows:

EVANSTON, *September* 3, 1885.

Governor F. E. WARREN:

I have 20 special deputies on ground now. Can you come up to-morrow?

J. J. LECAIN, *Sheriff.*

I proceeded to Evanston by special train September 4. Arriving there, I found the situation very serious, an outbreak seeming imminent. I telegraphed as follows:

ROCK SPRINGS (EVANSTON), WYO., *September* 4, 1885.

General O. O. HOWARD, *Commanding, Omaha, Nebr.:*

Your dispatch received. I fear further trouble all along the line. Armed men still keep Chinese out of town. Sheriff at Evanston mines telegraphs for help. I be-

lieve outrage of yesterday here will be repeated there unless civil authorities strengthened by troops. I telegraphed the President and War Department during last night. What instructions have you regarding my request?

FRANCIS E. WARREN,
Governor.

To which I received the following reply:

OMAHA, NEBR., *September* 4, 1885.

F. E. WARREN, *Governor, on Special Train:*

Have heard nothing from Washington or Chicago. Will telegraph contents of your message east at once.

O. O. HOWARD.

Late in the afternoon I received the following from the Adjutant-General:

WASHINGTON, D. C., *September* 4, 1885.

Hon. FRANCIS E. WARREN,
Governor Wyoming, Evanston, Wyo.:

I have just sent the following dispatch to General Schofield:

"Before action can be taken at the request of the governor of Wyoming for the use of troops to suppress insurrection or disorder in the Territory, he must first make formal application to the President, as indicated in the Constitution and provided for in the Revised Statutes. In the mean time, that the Government interests may not suffer, the Secretary of War directs you to send two companies to Rock Springs, to prevent any interruption to the United States mails or the routes over which they are received."

R. C. DRUM,
Adjutant-General.

Up to this time I had not deemed it necessary to ask for troops in conformity with the provisions of the "insurrection act" (Revised Statutes), on account of the uncertainty that exists as to the standing of *Territories* under this act, and also on account of the peculiarities of this outbreak, it being a direct attack on Chinese laborers, made by laborers of other nationalities, and an offense against existing treaties. And I had stated the fact as to nationalities in all my first telegrams. To set myself right, however, and fearing that the moral effect of troops would only prove effectual until mischievous parties could learn how far troops could be used, I forwarded the following telegram, not having access to copies of Revised Statutes at the time:

EVANSTON, WYO., *September* 4, 1885.

The PRESIDENT, *Washington, D. C.:*

Unlawful combinations and conspiracies exist among coal miners and others in Uinta and Sweetwater Counties, this Territory, which prevent individuals and corporations from enjoyment and protection of their property and obstruct execution of the laws. Open insurrection at Rock Springs; property burned; sixteen dead bodies found; probably over fifty more buried under ruins; seven hundred Chinamen, driven from town, have taken refuge at Evanston and are ordered to leave here; sheriff powerless to make necessary arrests and protect life and property unless supported by organized bodies of armed men. Wyoming has no Territorial militia. I therefore earnestly request the aid of United States troops, not only to protect mails and mail-routes, but that they may be instructed to support civil authorities until order is restored, criminals arrested, and the sufferers relieved.

FRANCIS E. WARREN,
Governor.

At Evanston I conferred with the sheriff, prosecuting attorney, and others, making all provisions possible for defense of the Chinese and to prevent the destruction of property. The sheriff had a strong force of deputies sworn in, who rendered valuable aid. The officers of Uinta County were diligent and efficient.

During the night of September 4 I returned to Rock Springs, where, early in the morning, Lieutenant-Colonel Chipman in command, with Companies D and E of the Seventh Regiment United States Infantry,

arrived and went into camp (troops also passed through en route to Evanston).

Immediately after their arrival the sheriff of the county proceeded to deputize assistants and commenced the making of arrests of suspected parties. In meantime a coroner's jury had examined the dead bodies and rendered this verdict, that "Eleven persons, unknown, had been burned to death, and five persons, unknown (they did not pronounce as to color or race), had been shot by parties unknown to the jury."

Salt Lake morning papers arriving early in the day, I was informed through the Associated Press dispatches that my request for troops was slightly informal, in that I did not state that the Territorial legislature was not in session. To set that matter fully right, and to still further represent the necessity for greater latitude in use of troops—as the newspapers in their Washington dispatches had given publicity as to exact extent troops could be used—I sent the following dispatch:

ROCK SPRINGS, WYO., *September* 5, 1885.

The PRESIDENT, *Washington, D. C.:*

Referring to my dispatch of yesterday, asking for United States troops in support of civil authorities in subdueing insurrection, I beg to add that the legislature of Wyoming is not in session and cannot be convened in season to provide for the emergency. Chinamen still prevented from returning to their homes at Rock Springs. Those at Evanston ordered to leave by unauthorized parties.

FRANCIS E. WARREN,
Governor.

I then returned to Evanston, where Lieutenant-Colonel Anderson had arrived and gone into camp with Company A of the Ninth Regiment and Company I of the Twenty-first Regiment of United States Infantry. At this time, as a measure of safety, all Chinese miners at Almy (3 miles from Evanston) had been moved into the Chinatown part of Evanston, near where troops took camp. During the 5th, 6th, and 7th great excitement prevailed at Evanston, and very grave fears were entertained by the most conservative citizens. Armed men had been coming into town, and it is fully believed that violence could not have been avoided the night of September 5 but for the timely arrival of Colonel Anderson's command on that day. Anonymous threatening letters were continually received by prominent citizens; the Chinese were repeatedly warned to leave town, under pain of death, by the many so-called "committees"; the white coal miners from Almy quit work, came to Evanston, hired a public hall, had meetings, passed resolutions, sent committees to railroad officers, county officers, prominent private citizens, and others, demanding that Chinamen should not be employed—that the "Chinese must go," &c.

By this time the extent of the orders given the United States troops was known to the miners, and it was generally believed by them that they could drive out the Chinese with no fear of interference from the troops in near attendance. The miners claimed to have 400 armed men.

Matters growing no better, I deemed it highly important that further aid be secured, and I telegraphed as follows:

EVANSTON, WYO., *September* 7, 1885

The PRESIDENT, *Washington, D. C.:*

Referring to my several late telegrams, I respectfully submit that the unlawful organized mob in possession of coal mines at Almy near here will not permit Chinamen to approach their own homes, property, or employment. From the nature of outbreak sheriff of county cannot rally sufficient posse, and Territorial government cannot sufficiently aid him. Insurrectionists know through newspapers and dispatches that troops will not interfere under present orders, and moral effect of presence of

troops is destroyed. If troops were known to have orders to assist sheriff's posse in case driven back, I am quite sure civil authorities could restore order without actual use of troops, but unless United States Government can find way to relieve us immediately, I believe worse scenes than those at Rock Springs will follow, and all Chinamen be driven from the Territory. I beg an early reply, and information regarding the attitude of the United States Government.

FRANCIS E. WARREN,
Governor.

The following morning I received dispatch as follows:

WASHINGTON, D. C., *September* 8, 1885.

Hon. F. E. WARREN, *Governor of Wyoming, Evanston, Wyo.:*

The following telegram was sent to Major-General Schofield yesterday evening in reply to your dispatch of to-day:

"I am instructed to say that by the third article of our treaty with China this Government has agreed to exert all its power to devise means to protect Chinese laborers from ill-treatment at the hands of any other persons. In view of this treaty stipulation and of the representation of the governor of Wyoming that the civil powers of that Territory are unable to protect lives and property and preserve the peace in certain localities therein, the President directs that you send to the points where violence exists, or is threatened, a suitable military force. If necessity actually exists for the actual employment of this force in protecting life and property and aiding the civil authorities in preserving the peace and in the arrest of those committing offenses against the laws, you are authorized to use it for these purposes; but care should be taken that the military forces are not needlessly employed. The President desires that the commander of each detachment communicate with you and receive instructions directly from you, to make sure that the force is not unnecessarily used, and that you keep the Department frequently informed of the condition of affairs at each of the disturbed localities."

R. C. DRUM,
Adjutant-General.

Also the following:

CHICAGO, *September* 8, 1885.

The GOVERNOR OF WYOMING TERRITORY, *Rock Springs, Wyo.:*

I am authorized by the President to use the United States troops in case of actual necessity to protect the lives and property of Chinese laborers in Wyoming, and to aid the civil authorities in preserving the peace and arresting offenders against the law. I have given the necessary orders for the action of the troops in any case of threatened attack which the civil authorities are not able to prevent. Any further action which may be desired can be taken only upon express orders from me in each case, based upon an accurate report of the facts, showing the necessity for such action. I have therefore to request that you will confer fully with the commanding officers of the several detachments of troops. Inform them fully of the facts in each case, and show them the necessity for the action requested so that they may report fully to me. I hope that this authority from the President and the presence of troops ready to enforce it will suffice to prevent further violence in the Territory.

J. M. SCHOFIELD,
Major-General, Commanding.

Reinforcements of troops were added to the commands at Evanston and Rock Springs during the night of the 8th and morning of the 9th, and on the latter date the Chinese residents of Rock Springs left Evanston, returning to their old homes, or to the ground upon which those homes formerly stood.

September 9 I sent this dispatch:

EVANSTON, WYO., *September* 9, 1885.

R. C. DRUM, *Adjutant-General, Washington, D. C.:*

I have the honor to acknowledge receipt of your dispatch of yesterday, also one from Major-General Schofield. Please do me the favor to convey to the President my grateful thanks for prompt assistance rendered the Territory in protecting Chinese laborers. Chinamen who took refuge in Evanston when driven from Rock Springs are now aboard cars returning to Rock Springs under guard of civil officers, followed by train transporting troops. In my judgment the presence of troops, with existing orders, will avert further violence and enable civil authorities to overcome disorder.

FRANCIS E. WARREN,
Governor.

Also the following dispatch:

EVANSTON, WYO., *September* 9, 1885.

J. M. SCHOFIELD, *Major-General, commanding, Chicago, Ill.:*

I beg to acknowledge receipt of your dispatch of yesterday, and thank you for it. Chinese refugees from Rock Springs are now *en route* for Rock Springs. I am sure that presence of troops under present orders will fully enable civil authorities to maintain order here and at Almy mines, 3 miles distant. I trust like results may follow at Rock Springs, but I believe it will be necessary for troops to remain in attendance for some time.

FRANCIS E. WARREN,
Governor.

Upon receipt of these latter directions and orders by the officers in command at the disturbed points, the effect was immediately perceptible, and the civil authorities were enabled to assume control of the situation, assisted only by the presence of a military force.

Some days after this I returned to Cheyenne, going to Rock Springs again September 16 on the same train with the Government directors of the Union Pacific Railway, Messrs. Alexander, Savage, and Hanna, and meeting at that point Chinese Consuls F. A. Bee and Wong Sie Chen, and Interpreter Tsang Hoy, under escort of General McCook. I doubt not they have reported to the Department.

I earnestly desired the Government directors to remain at Rock Springs long enough to fully acquaint themselves with the situation and report to the Department from the spot the result of their investigation and deliberations.

I was present a number of days while the Chinese consuls were taking general evidence regarding the outbreak and its results. Also while the Government directors were taking evidence regarding the riot and massacre, and as to the causes reported to have precipitated it, including charges alleged against the Union Pacific coal department. The result of these investigations have, I doubt not, been reported to the Department.

September 21, I met General J. M. Schofield going to, and September 23 coming from, Rock Springs, giving him all information at my command.

The night of September 26 the following notice was posted in very conspicuous places in the city of Cheyenne:

A FAIR WARNING!

All Chinamen found in the city of Cheyenne after October 1 will be subject to a coat of tar and feathers and ridden from the city on a rail.

WORKINGMEN.

THE CHINESE MUST GO!

The civil officers have preserved order in Cheyenne, and no attempt has been made to carry the threat into execution.

This and many other publications and acts of similar import throughout the Territory have conduced to create a feverish excitement during the past sixty days. Chinese have been "warned out" of nearly every town, sometimes going and sometimes not. Coal miners at different camps have "struck," quitting work and demanding that "the Chinese must go" from the entire Territory. (Four hundred men were out several weeks at Carbon, Wyo., on this account, although no Chinese were employed there.) All employers of Chinese have been "boycotted" by different labor organizations, and interested and unprincipled demagogues have endeavored through the labor organizations to accomplish

a "strike" on the part of all employés of the entire Union Pacific system, in order to secure expulsion of the Chinese from Wyoming; but the danger of their securing a "strike" showing sympathy with crimes committed does not now seem formidable.

The excitement is abating, although very many of the discordant spirits are yet seemingly awaiting an opportunity to wreak vengeance upon the Chinese for their failure to completely rid the Territory of Chinamen, as they had planned to do when making the first attack.

Two companies of troops yet remain at Rock Springs, and one company at Evanston. I believe their presence there necessary for some months to come, especially at Rock Springs.

Sweetwater County, though large in area, has a small population, Rock Springs being her largest town. That and Green River, 15 miles west, contain nearly all its inhabitants. The feelings of a large majority of the residents at Green River—the county seat—are in accord with those of the white coal miners in their avowed purpose to drive out the Chinese, and very little censure is uttered in that county regarding the means used in the attack of September 2. Hence, it did not surprise those who knew the situation when the grand jury of that county, which met a few days after the occurrence, and when the excitement was great, ignored all bills for indictment against those arrested for complicity in the rioting, murder, arson, and robbery.

The grand jury made the following report of their deliberations:

GREEN RIVER, *October* 7, 1885.

We, the grand jurors empaneled in and for said county at the September, 1885, term of the third district court, would respectfully report that we have examined into all offenses that have been brought to our attention or are within our knowledge, and have presented bills of indictment where the evidence would warrant such findings. We have diligently inquired into the occurrence at Rock Springs on the 2d day of September last, and though we have examined a large number of witnesses, no one has been able to testify to a single criminal act committed by any known white person on that day. Whatever crimes may have been committed there on the 2d day of September, the perpetrators thereof have not been disclosed by the evidence before us, and therefore, while we deeply regret the circumstances, we are wholly unable, acting under the obligations of our oaths, to return indictments. We have also inquired into the causes that led to the outbreak at Rock Springs. While we find no excuse for the crimes committed, there appears to be no doubt of abuses existing there that should have been promptly adjusted by the railroad company and its officers. If this had been done, the fair name of our Territory would not have been stained by the terrible events of the 2d of September.

By those justifying, in some measure, the acts of the mob of September 2, it has been charged that the Union Pacific Railway Company had discriminated against white miners in favor of Chinamen, thereby precipitating this outbreak; but their proofs offered are far from being sufficient to justify such crimes as those committed, even were every allegation true. Against the victims—the Chinese—no especial grievances are alleged, except those applying generally to "Chinese labor" as a whole.

During all the time and dates covered by these transactions, and up to the present, I have been in constant communication, either by wire or mail, with the local civil authorities of the counties in which these disturbances have occurred, and also with the commanders of the military detachments in those localities, and with the Union Pacific Railway authorities (but the correspondence is too voluminous for this report), in order that I may co-operate with them in maintaining law and order, and thus prevent further outbreaks. A close, vigilant watch is necessary during the present feverish condition of the labor sentiment.

I suggest that the suddenness be observed with which this attack was made, overcoming in a measure the Territory, and except for which the necessity for use of United States troops would doubtless have been avoided. Had the forces arrived on the scene of action six hours after the first request had been made for aid, not a life could have been saved of those who perished, so sudden, sweeping, and fatal was the attack. The arrival of troops, however, at the times and places was most opportune, as great excitement followed the Rock Springs occurrence, and the timely arrival of military aid prevented, without question, the taking of many lives and the destruction of much property.

In conclusion, I beg to offer the administration at Washington the sincere thanks of the executive and citizens of this Territory for the prompt and effectual manner in which the Federal authorities co-operated with the officers in this Territory in overcoming thus far this most unfortunate difficulty.

Respectfully submitted.

FRANCIS E. WARREN,
Governor of Wyoming.

Hon. L. Q. C. LAMAR,
Secretary of the Interior.